

AMERICAN AGRICULTURIST.

Designed to improve all Classes interested in Soil Culture.

AGRICULTURE IS THE MOST HEALTHFUL, THE MOST USEFUL, AND THE MOST NOBLE EMPLOYMENT OF MAN—WASHINGTON.

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ESTABLISHED IN 1842.

{ \$1.00 PER ANNUM, IN ADVANCE.
{ SINGLE NUMBERS 10 CENTS.

VOL. XVI.—No. 6.]

NEW-YORK, JUNE, 1857.

[NEW SERIES—No. 125.

Business Office at No. 191 Water-st.
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WORK FOR THE MONTH.

"They come! the merry Summer months
Of beauty love and flowers;
They come! the glad some months that bring
Quick leafiness to flowers.
Up, up, my heart! and walk abroad,
Fling work and care aside;
Seek silent hills, or rest thyself
Where peaceful waters glide."

We think the poet a little too fast in his exhortation to throw work and care aside, though there is strong propensity, in all who have their esthetic natures at all cultivated, to follow his counsel in this most charming month of the year. Every thing invites to out-door enjoyment now, but every nook of the farm and garden urges quite as strongly to work. There is perhaps on the American farm too much work and care, especially at this season, and too little opportunity to study the fervent work of Nature, which is going on now so rapidly in field and forest. Our climate has no doubt had much to do with the character of the cultivators of the soil. The Springs are long and tedious, and the ground is not in good working condition for two months after the Winter is broken. Then, when the April rains are over, and the soil becomes fit for the plow, every thing hastens to make amends for the cold and dripping skies. The sun comes out with intense energy, and winds from the northwest sweep over the fields, and dissipate the superabundant moisture. The farmer hastens to sow and plant, that the early crops may have the advantage of every sunny day. They come forward rapidly, and by the first of June almost every crop is pushing, and the weeds are calling for the cultivator and the hoe. It is impossible for any one who has any interest at stake in the field, to stand idle among the springing corn and roots. He catches unconsciously the fervid glow of the season, and hurries up the team as he threads his way between the waving rows of maize and the potato drills. Already the grasses are luxuriant in the meadow, and the wheat and rye are waving their plumes in the summer breeze, reminding him that the days of the sickle and the reapers are not far in the future. He feels that meditations upon Nature's work were better left to poets and philosophers, while he, if he would reap abundant harvests, must join her labors. Weeds are the de-

mons that disturb his meditations, if he have any, and nothing but a veritable hoe or cultivator will exorcise them.

There is undoubted truth in his view of the case, and he must put off the enjoyment of Nature's work, until his own is done. This seems to be a necessity of farm life, as it is now constituted in most parts of the land. Were it conducted on a larger scale, and with more capital and labor, so that the proprietor would find full employment in the work of supervision, he might enter more into the sympathies of the poet, and grow enraptured with the scenes of beauty spread out on every hand. As it is, the Summer's loveliness and light are not all lost upon the tillers of the soil. Readers and thinkers are multiplying among them, and many are found who appreciate both the flowers of the field, and the graces of rhetoric, who are as much at home in the shade with microscopic specimens, pencil and paper, as they are in the sunshine, with the hoe and the cultivator. We are glad to know that science is lending its aid to husbandry, and that the sons and daughters of the farm are pushing their explorations into other fields than those which bloom with corn and clover. Some of the most diligent students of botany and entomology are found among cultivators, and the whole class are growing more careful observers, and are constantly reporting the results of their experience in our journals of horticulture and husbandry, and are accumulating the facts which must be the basis of an agricultural science if we ever have one.

The increasing intelligence and thrift now abundantly apparent, in almost all the districts visited by our journal, are throwing new attractions around farm life, and creating new worlds of enjoyment. Old homesteads are so refitted and improved, that they would hardly be recognized by their former occupants. The weather colored clapboards and shingles are now covered with paint, and climbing roses are clustering between the green blinds of the windows. There are walks in the garden, and in the yard by the front door, sacred to the uses of hospitality, bordered with shrubs and flowers, showing that the potato is no longer the only idolized blossom of the farm. New planted orchards are stretching over hill-tops and meadows, and their first fruits are not far in the distance. Many have learned how to plant and to cultivate the finer varieties of fruits, and pears, peaches, plums, cherries and apricots are beginning to bloom in

companionship with the currant, once the only inevitable fruit of the farm-garden. There is certainly much more to be enjoyed in these improved rural homes than formerly, and every year, now, will add to their charms. He who plants a Norway spruce or other ornamental tree in a good position, and properly cares for it, lays the foundation of a new world of beauty and happiness. Every year will give to it new charms, and he will have before him a living book, in which to study what is beautiful in a tree. This contemplation of the beautiful in Nature is the proper reward of the husbandman's labors. A part at least of the graces of the objects he cultivates, is the work of his own hands, and this, perhaps, is one reason why we admire a fine tree in a lawn more than one in the forest. Art has assisted Nature, and enabled her to bring out more perfectly the constitutional qualities of the tree. But no cultivator will rest satisfied with the contemplation of what he has already accomplished in adorning his home. The very pleasure experienced from past attainments, as well as lower motives will impel him to new labors. Among the interesting events in this month is the

SHEEP WASHING.

This is regarded with peculiar satisfaction by young and old, and is almost a holiday for the boys. It is a release from the dull labors of the hoe, and the plow, and usually their first experience in bathing, for the Summer. Even the flocks partake of the hilarity of the scene, and are driven along to the river's brink with manifold bleatings of ewes and their lambs. Old Tusser says,

"Wash sheep (for the better) where water doth run,
And let him go cleanly and dry in the sun:
Then shear him and spare not at two days an end;
The sooner, the better his corps will amend."

The place commonly selected for this business is a pond or stream, three or four feet deep, where the washer stands up to his middle in the water, and squeezes the dirty wool between his hands. Where a large flock is to be washed, there is a good deal of exposure to colds, in this long standing in the water, and in the olden time a free use of intoxicating liquors was made to guard against the evil. Both the evil and the remedy may be avoided, by the selection of a better place for washing. A small stream will answer the purpose, if there be fall enough. Throw across it a temporary dam, and put in a cheap flume made of boards, and the washers may stand on each side of the flume, and do their work with-

out wetting anything but their hands and arms. In case of small streams the flume may be partly boarded up at the lower end, to increase the depth of the water. This confining the stream to a narrow passage greatly increases the current, and the filth in the wool is carried off more rapidly. The building of the dam and flume is properly neighborhood work, and where it is shared by a dozen or more farmers, the expense is but trifling.

SHEEP SHEARING

requires some skill, and it is a barbarous practice to put fresh hands and boys to the work, unless they have a competent shear-er to instruct them. The education generally costs the farmer much more than the service of shearing if he regard the thrift of his flocks. We have seen sheep that must have sat for Tusser's picture, when he advises

"Reward not thy sheep, when ye take off his coat,
With twitches and patches, as broad as a goat;
Let not such ungentleness happen to thine,
Lest fly, with her gentils, do make it to pine."

Farmers certainly ought to be content with taking the wool, without drawing blood before the whole sheep is handed over to the butcher. Flies frequently lay their eggs in these wounds, and the health of the sheep is seriously impaired. All wounds should be smeared over with grease, or marking paint, to protect them from the weather.

SPARE THE BEST LAMBS.

In this month, the butcher will begin to cast an eye of cupidity upon your most thrifty lambs. He will praise the excellence of your mutton, and tell you how much the South Down lambs are prized in the shambles. He will remind you of former good bargains, and will probably give you your price for all the lambs you have to spare. But you should early select the best for yourself, and assume as a safe principle in sheep-husbandry, that they are worth more to you for feeding and improving your flock, than for meat. When you have selected these, make the remainder as fat and saleable as possible.

We greatly need more mutton in our markets, and of much better quality, particularly in the Spring of the year. It is generally abundant and cheap enough in Fall and Winter, but now, legs, and saddles only smoke upon the tables of the rich. It is a wholesome meat, and can be raised, in most parts of the country, more cheaply than any other.

NEW PLANTED TREES

should receive careful attention this month. In all cases, they should be mulched. If starting well, they will grow more vigorously for the mulch. If not yet put out in leaf, they may be saved perhaps by mulching and watering.

EVERGREEN TREES.

It is not too late to set these in northern localities, the first of this month. It is generally admitted, that these do better when planted just as the buds are starting at the ends of the old wood.

THE HOE

is king this month, in field and garden, and just as it reigns lord of the soil will your

crops be remunerative. Keep the surface of the ground scarified as much and as often as possible. Let the hoes be light and convenient, and keep them well brightened with use. The horse hoes are coming into use rapidly, and will save much of the labor by hand. It matters little whether the ground be stirred by hand or horse power, if the work only be thoroughly done. Hoeing is to a certain extent a substitute for manure. The more fine you make the tilth of the soil, and the more you increase its evaporation by stirring the surface, the better will be your crops.

CALENDAR OF OPERATIONS.

JUNE, 1857.

[We put down here a summary of various operations, many of them very common ones, it is true, but a simple catalogue like this will often suggest a piece of work that would otherwise be forgotten. The Calendar is adapted to the latitudes of 41° to 42°. A little allowance must be made for each degree of latitude—later north—earlier south. This table will be made out anew every month and adapted to the season of each year.]

EXPLANATIONS.—The letters f. m. l. refer to first, middle, and last of the month.

Doubling the letters thus: ff., mm., or ll., gives emphasis to the particular period indicated.]

FARM.

Hoe, Hoe, Hoe, HOE, is the watchword for this month. If weeds get the start of growing crops now, they not only appropriate the fertilizing materials of the soil, and monopolize air and sun-light, but render the future labor of eradication much more difficult. Therefore keep the weeds down, and the soil loosened up, that the rootlets of plants may find permeable ground, air and moisture to grow in, and feed upon. Planting may still be done to some extent especially where failures have occurred.

Bark—Many farmers do a small business at peeling bark for tanners. This may be commenced upon the Hemlock and Oak, &c., even if it does not happen to be "upon the full of the moon." After drying for a few days, with the rough side out, pile away and cover in such manner as to protect from rain.

Barley may still be sown ff.

Beans—Plant ff. among corn, or by themselves.

Beets—Sow Sugar and Mangold Wurtzel for stock ff.

Buckwheat—Sow ll., or better next month, unless north of this. A light soil is preferable to heavy loam for this crop. Green sward turned over this month will make a good ground work.

Cabbages—Hoe early plantings f. m. and put out for late m. l. among potatoes, or other crops soon to come off. Use tobacco dust, dry ashes or lime to drive away insects.

Carrots—Hoe and thin m. l. They may still be sown ff. and will make excellent winter feed for cattle and horses. It is to be hoped that a good plantation of them was made early last month.

Clover—Plow in m. to manure the land, especially for wheat.

Corn may still be planted ff. at the north. Look to former plantings and make good any failures. Sow in drills m. for stock. Plow or cultivate and hoe m. l. Protect from crows by scattering upon the surface, corn soaked in strychnine water, by stretching lines, &c.

Cotton—Work and hoe f. m.

Draining—Continue as time will admit.

Fences—Have an eye to, repairing upon the first appearance of weakness or defect.

Grain will not require cutting before next month except at the South. Go over the "seed patch" and pull out 'cockle' and foreign grain.

Grass—Cutting of this will commence ll. Better begin a little early, especially if the weather is favorable and there is much to cut. The most suitable time for cutting Timothy is when the seed is in a dough state, and for clover just after the majority of heads are out of bloom. Anticipate a little, however, or some will get too dry before mowing. Look early into the feasibility of securing a mowing machine of the best kind.

Hoeing and weeding are the most important operations of the month, consuming more time on the farm, if properly done, than anything else. Assuming that the ground was in good condition, and the seed properly put in, it would now be very poor economy to allow weeds to appropriate what should form food for the growing crops besides choking out the latter. Therefore let no rust collect upon the hoes this month.

Hogs—Keep these from streets, highways, and even your own yards, that they may annoy neither yourself or neighbor by constantly getting where they are not

wanted, to say nothing of the loss of manure scattered about the premises. Breeders may properly have a moderate pasture or orchard range, but it is generally better to keep store hogs, and those for fattening in pens and yards making compost out of muck, woods and road scrapings, headlands, &c.

Manures—Collect and prepare for autumn use. Scrape the barn yards and throw the droppings in heaps, under cover if possible, each morning, spreading of plenty muck and a little plaster over them. Don't forget to embrace every opportunity to dig out and throw up to dry a large pile of muck or swamp mud for future use.

Millet—Sow ff. m. for soiling.

Moles—These are unjustly persecuted animals, whose motives and acts are too often misconstrued. They are insectivorous animals often making incursions into corn-field in pursuit of grubs and worms, and not to prey upon the corn, as many suppose. They sometimes disturb the roots in their search for food, but the worms they destroy would injure the crop far more. If, however, the farmer is bent upon their destruction, let him poison them, by collecting a few fresh worms and put a little strychnine, or carbonate of barytes in powder upon them, keeping in a box for a few hours, when three or four of them may be laid in each mole run as it leaves the fence or hedge for the cultivated field. Repeat the dose as they are taken away, until the moles entirely disappear.

Pastures—Divide into medium sized lots, and alternate with cattle sheep and horses. The hurdle system is worth looking into.

Peas—Sow ff. m.

Potatoes may still be planted ff. at the North, although it is likely all were put in by the first of May. Plow and hoe m.

Pumpkins—Plant ff. for stock. New ground is preferable. They may be put among corn or potatoes. This we have found a very profitable crop, especially on new ground.

Sheep were probably washed last month, if not do it ff. Shear in a week or ten days after washing, according as the weather is warm and dry. Time should be given between washing and shearing for the "yolk" or oil to give the wool a rich glossy appearance. Some shear as soon as dry, but we prefer giving them at least a week of good weather. Put them under cover after shearing, upon the approach of storms. Do not be too ambitious to take off a large number of fleeces in a day, at the risk of "nipping" the sheep here and there, making sores for flies to deposit their eggs in. A sore will often take off a dozen pounds of flesh or more. Cut the horns growing towards the head, and pare the hoofs if there is any appearance of rot.

Sugar Cane—Plant or drill the Chinese ff. m., for soiling. Where seed can be obtained, try a plot in comparison with corn for this purpose. Plow or cultivate, and hoe early plantings f. m. See two articles.

Tobacco—Keep fields well hoed and free from weeds.

Tools—See that those required for hay and harvest are in proper condition, such as mowing machines, scythes, cradles, forks, horse and hand rakes, racks, wagons, &c. If any of these are to be purchased, procure them beforehand, and put them in working order. If you have much hay and grain to cut, it is better to bring "horse power" to bear upon it. Purchase only those machines known to give good satisfaction.

Turnips—Sow Ruta-bagas and Swedes ll. or better next month, except at the far North. White, flat varieties may be sown f. m. l. for succession.

ORCHARD AND NURSERY.

There is but little to do in the Orchard at this season, save keeping the ground light about the trees, thinning fruit and killing caterpillars. Caterpillars and other insects neglected last month should by all means be looked at now. In some cases Summer pruning may commence the latter part of the month.

The Nursery grounds will need frequent plowing and hoeing, together with other operations given below.

Budding—Commence m. l. Tie last year's buds to the stock, to secure an upright growth. Rub off all superfluous shoots.

Caterpillars—Destroy any omitted last month. If on twigs we prefer cutting the whole off, but on larger limbs use a pole and brush to twist into the nest and pull it down. Crushing the nests with the hands is the most effectual method we have practiced.

Evergreens—May be transplanted ff. to m. and later if earth is taken up with the roots.

Fruit—Thin where too abundant. Do not allow any to ripen on trees planted this season. One bushel of large fine perfect fruit of any kind, is better than twice that amount of small, poor, cracked, or prematurely ripened fruit.

Grafts—Look over and loosen any bandages which are binding the trees.

Hoe among nursery rows, and keep grass and weeds from growing about the trunks of standards.

Insects—Destroy codling moth, curculio, scale, slugs, &c., according to directions on another page.

Layering and Inarching—Attend to m. l. See chapter on grape culture.

Mulch—Continue around newly planted trees.

Peach Trees—Examine and remove borers. Thin fruit m. l. where too abundant.

Pear stocks—Commence budding m. ll. if growing vigorously.

Plum Trees—Cut out all black knots, and watch carefully for the appearance of the curculio. See "Insects," on another page.

Pruning may be performed lightly ll. but mostly next month.

KITCHEN AND FRUIT GARDEN.

Much needs doing this month, such as the replanting grounds where seeds have failed, and in some cases even the first planting of a crop has not been done. The gardener is already reaping the rewards of a portion of his toil, being in market with his early vegetables. The grounds upon which some of these were raised may be cleared, and a crop of late vegetables planted. Hoeing, weeding and thinning are important labors for the month, and require unremitting toil.

Asparagus—Keep beds free from weeds, cutting only until the middle of the month.

Beans—Early kinds and even Limas may be planted ff.

Beets—Sow ff. for Summer and Autumn use, and f. mm. for Winter. Hoe, weed and thin early plantings.

Blackberries and Raspberries—Keep staked and the ground loose and free from weeds. Do not injure the young shoots which are for next year's bearing.

Cabbage—Plant out for late f. m. Hoe former plantings and search for cut worms. Renew any plants which have been destroyed.

Cardoon—Sow ff. Plant f. m.

Carrots may still be sown ff. Hoe and thin those sown last month.

Cauliflower—Treat as cabbage.

Celery—If not done last month, plant ff. shading from the sun.

Corn—Plant f. m. l. for succession. The last planting may be among early potatoes or crops soon to come off.

Cress—Sow f. m. l.

Cucumbers—Sow ff. for late. Dust with black pepper, soot, lime or guano, to prevent the ravages of the striped bug; or cover with cloth frames.

Egg-Plant—Put out ff. for Autumn crop, planting beans or radishes between the rows.

Gooseberries—Keep well hoed and dust the bushes with sulphur if affected with mildew.

Herbs—Cut and dry when in full flower.

"Hoeing is both rain and manure," which are indispensable articles in the kitchen garden. The man who hoed his cabbages every day to beat his neighbor was surprised to find the plants of the latter kept ahead of his own. The secret was his neighbor hoed twice a day.

Insects—Wage incessant war against them, especially those preying upon fruit. See article elsewhere.

Lettuce—Sow and plant f. m. l. among other crops.

Melons—Plant ff. if not completed last month. The middle of the month is soon enough to plant for pickles.

Okra—Plant ff. if not done.

Onions—Hoe, weed and thin ff. m. l.

Parsneps—Weed and thin ff. m.

Peas—Sow f. m. l. for succession. Earth up and stick or bush early varieties ff.

Potatoes—Hoe ff. Arrange vines of sweet varieties.

Pumpkins—Plant ff. on well manured soil.

Radishes—Sow f. m. l. among beets and between the rows of other vegetables.

Raspberries—Treat as Blackberries.

Salsify—Hoe and thin ff. m.

Spinach—Sow ff. m. Hoe and cut former sowings.

Squashes—Plant ff. m. Protect from striped bug by dusting black pepper on the leaves while wet with dew.

Strawberries—Clean and straw the beds ff. m. Water in dry weather. Read chapter VI, in present number.

Thinning—Attend to generally. Inexperienced persons usually are ambitious to raise much from little ground, and leave their vegetables too thick. They can only attain a small size and the yield is proportionally small.

Tomatoes—Plant out ff. m. for late crop.

Turnips—Sow a few f. m. l. for Summer use. At the North the main crop may be sown ll.

Weeds should all be eradicated either by hand or with the hoe. Besides an unsightly, slovenly appearance, they impoverish the soil, and if not disturbed, will sow a crop for succeeding years.

FLOWER GARDEN AND LAWN.

The Flower Garden, if properly cared for last month, will now show a profusion of blooms, especially if Green and Hot Houses, Conservatories or Parlors, have contributed from their shelves. Roses will lend their beauty and fragrance, Carnations lift their showy heads, while

the modest Violet, many colored Verbenas and bright scarlet Pelargoniums in gay masses attract the eye. Fuchsias, Cinerarias, and the early blooming Annuals, interspersed here and there with hardy Azaleas, Deutzias, Syringas, Spireas, Peonias, not omitting the delicately superb Dielytra Spectabilis, and a multitude of other herbaceous plants and shrubs unite their charms to enliven the scene; to which add the lively shade of evergreens, the varied colors and freshness of deciduous trees, now clothed with luxuriant foliage, and we have a picture which may be contemplated with unfeigned delight. There is, however, work to be done.

Annuals will require thinning, weeding and transplanting. A few may still be sown on vacant grounds, or to take the place of flowers nearly out of bloom.

Asters—Sow ff. and transplant those put in last month. Box Edging may be planted ff. but May was a better month. Trim f. if not already done.

Bulbs—These are mostly out of bloom, and a portion of them may be lifted m. ll. If the bed was made anew last fall they may all remain the present season, at least. None should be taken up until the leaves have decayed which will be in four to six weeks after flowering. After lifting, cover for a few days with sand or dry earth, previous to packing away in boxes or on shelves. Sow the ground with annuals or plant from former sowings.

Carnations—Keep the flower stalks neatly tied to stakes, and shade from mid-day sun. Layer and put in cuttings to keep up a stock, selecting cloudy weather for this operation.

Dahlias—Plant out ff. m. and stake as required.

Evergreens may still be transplanted ff. m., watering at the time if the ground is dry, and give a mulch of straw or litter to each tree and shrub.

Gladiolus—Plant ff. if not done last month.

Grass—Mow Lawns frequently, and shear edgings.

Gravel—Weed and rake walks, adding new gravel where necessary.

Hedges—Clip m. l. cutting evenly with pruning shears.

Mignonette—Sow and plant ff.

Oranges, Lemons and Oleanders—Bring from houses ff. and either plant in borders, or set the tubs or boxes in situations partially sheltered from the wind.

Pelargoniums and Verbenas—Plant in masses or on borders ff. m.

Pinks—Layer and plant cuttings f. m.

Potted Plants—Many of these will now be brought from the houses and may be planted on the borders or arranged in groups where the wind will not blow them over. If left standing in pots water frequently.

Roses will commence blooming in the open grounds f. m. and many brought from the houses are already in full flower. Propagate by budding ll. on new growth, inarching and layering at the same time. Destroy slugs with whale oil soap, or tobacco water, syringing freely. The rose bug will be offended by the application and leave in disgust.

Water—Give to all newly planted shrubs and trees, if dry weather sets in.

GREEN AND HOT HOUSE.

As most of the plants are now in the open grounds very little is to be done in the houses. The plants themselves, however, need much care and are particularly referred to, under "Flower Garden and Lawn." Some plants still remain inside and need plenty of air and water.

Camellias may be carried out, but in large collections where a house is devoted expressly to these plants they usually remain on the shelves. The house needs airing thoroughly each day, if indeed it is closed at all. Turn the plants to secure an upright growth and syringe frequently, guarding against the approach of insects.

Cuttings of succulent and herbaceous plants may be put in, shading from the sun and covering with glass where practicable.

Grapes—See chapter on another page by a practical grower.

Inarch choice specimens which will not strike readily from cuttings.

Insects—These will constantly make encroachments within the houses, and fix lodgments for rearing their young broods. Destroy them by syringing the whole house, forcing the water violently against the walls, fumigating with tobacco and collecting by hand. It is far easier to destroy a few now, than whole broods when the plants are ready to be brought in, later in the season.

Potting of some plants may still be done and a shift to larger pots will in many cases be needful.

Roses—Plant in borders ff. for Summer blooming. Pot off seedlings, placing in shade, out of doors. Syringe for slugs as directed for pear and cherry trees elsewhere.

Water those plants remaining in pots daily and in some cases both morning, and evening. After rains if water is observed to stand upon the surface, turn the pot on its side and examine its drainage which will be found defective, and need rearranging.

THE APIARY IN JUNE.

BY M. QUINBY.

As soon as the bees begin to cluster outside the hive, it is time to put on boxes for surplus honey. If crowded outside, the boxes will not prevent swarming. Most of the swarm will issue in this month, except in northern latitudes. They usually leave the hive between 10 o'clock A. M. and 2 o'clock P. M., but sometimes as early as 7 o'clock and as late as 5 o'clock. When they issue, the tin-pan music to make them cluster may be dispensed with as well as all sorts of sweet herbs rubbed inside the hive, to make them like it; have it clean and have them immediately. As soon as they are in, carry the hive to its stand—let the back side rest on the bottom board, raise the front side half an inch. Protect from the sun a few days.

The first swarm from a hive is usually large enough for a good colony; two such, (when many stocks are kept,) sometimes issue nearly at once and unite, making too large a family for profit. They may often be divided; the success of the operation depends on getting a queen in each division. If they are not separated, they may be hived together and boxes put on immediately. Second swarms are much smaller, two such should be hived to gether when issuing not more than two days apart.

As a general rule, third swarms should be returned to the parent stock. The least trouble is to have them, and wait till next morning for the operation; then spread a sheet before the parent hive, one edge at the entrance, and shake out the new swarm on this, the bees will spread out on creeping up, and give a chance to see the queen, which should not be allowed to return. The parent hive will be worth much more as a stock for another year, and for surplus honey, and will repel the moth more effectually, which will amply repay the trouble. Third swarms seldom make stocks for Winter unless they are very early in the season. One strong stock is worth half a dozen feeble ones! Hence the advantage of returning, or uniting small ones.

The time to expect second swarms, is from nine to thirteen days after the first—very few exceptions. Third swarms, from one to three days after the second. As a rule all after swarms (those led out by young queens) will issue within eighteen days of the first.

Old stocks nearly alike in size, color, &c., standing close together, frequently lose their queen from 14 to 20 days after the first swarm. It may be known by an unusual commotion of the bees early the next morning. To save such stocks from ruin, another queen must be provided. One may often be obtained from a second, or third swarm; if not, a cell containing one, may be cut out of another hive that has cast its first swarm within a week. Blow some tobacco smoke under the hive, then turn it bottom up, drive the bees down among the combs with more smoke. Queens' cells are usually on the edges of the combs—get one sealed over and finished, and introduce it into the queenless hive. The best place is at the top through a hole and between two combs—simply laying it on the bottom board will answer, if there are bees enough to keep it sufficiently warm. In a few days it will mature, and they have a queen much sooner than to rear one from an egg.

Books on Bees.—To Lewis Smith, Petersburg, Ill. The best two are LANGSTROTH'S, noticed in this number. Price \$1 50 (\$1 00 pre-paid by mail), and QUINBY'S Mysteries of Bee-Keeping Explained. Price \$1. Then we have in paper binding at 25 cents each, Phelps' Bee-Keeper's Chart; Richardson's Hive & Honey-Bee, Weeks on Bees, &c. These can be obtained of Saxton & Co., of this City, or by sending to this office. They will be forwarded post-paid by mail, on sending the retail price.

STATE AGRICULTURAL EXHIBITIONS 1871.

Name.	Where Held.	Date.
Ohio.....	Cincinnati.....	Sept. 15-18
Canada East.....	Montreal.....	" 16-18
Illinois.....	Peoria.....	" 21-24
Pennsylvania.....	" 29 Oct. 2	
Wisconsin.....	Janesville.....	" 29 "
Canada West.....	Brantford.....	" 29 "
New-Jersey.....	New-Brunswick.....	" 29 "
Vermont.....	Montpelier.....	" 30 "
United States.....	Louisville Ky.....	Oct. 1-6
Indiana.....	Indianapolis.....	" 4-10
New-York.....	Buffalo.....	" 6-9
Iowa.....	Muscatine.....	" 6-9
New-Hampshire.....	Concord.....	" 7-9
Kentucky.....	Henderson.....	" 12-16
Connecticut.....	Bridgeport.....	" 13-16
East Tennessee.....	Knoxville.....	" 20-23
North Carolina.....	Raleigh.....	" 20-23
Massachusetts.....	Boston.....	" 21-24
Maryland.....	Baltimore.....	" 21-24
Alabama.....	Montgomery.....	" 27-30
West Tennessee.....	Jackson.....	" 27-30
Virginia.....	" 28-31	
South Carolina.....	Columbia.....	Nov. 10-12

A REQUEST.—In our July number we wish to publish a condensed but full list of not only State, but also of County Agricultural Exhibitions throughout the Country. Will our readers at various points please forward us at once the time and place of their several Exhibitions for the ensuing Autumn.

RURAL SURROUNDINGS.

NUMBER IV.—THE PIGS.

Almost every country housekeeper, farmer or otherwise, keeps a pig. Farmers proper keep many, and the tendency is to an overstock of them. This fact, however, depends much upon the locality, the mode of farming pursued, and the marketable price of pork in the vicinity. Some, however, breed different varieties for sale as "stock" animals—for propagation solely—with which the pork market has little to do, and the mode of cultivation pursued on the place, perhaps less. This latter subject, then, is an independent matter altogether from that of which we now write, not proposing to discuss the pigs scientifically but economically, in a general farm way.

Our suburban farmer will, if he studies a proper economy in his husbandry, have more or less pigs—we will not say how many, but, according to circumstances, he may keep from one to a dozen. The number, to keep them profitably, and the profit is the only question we should ever consult in the pig line, should depend very much on the quantity of vegetable, or other offal, or pig food, made on the place, or which could be conveniently obtained in the neighborhood. For instance, if a distillery, brewery, starch factory, or other large producer of pig feed be near you, it may be profitable to feed several pigs; but if the support for them be drawn from your own place alone, the number should be strictly confined to what you can keep well without the purchase or consumption of much grain, for pork fed on *bought* grain does not, in the general run, pay.

These preliminaries settled, we will now look into the pen and see how the stock stands, and inquire into the mode of supplying that stock. As a rule, where three, four, or half-a-dozen pigs are kept, you should have a breeding sow. We are supposing you to live in a *christian* neighborhood where a stock hog of a good quality is kept, and his serving to be had at a reasonable rate; for, understand us, if your swine is not of a choice breed or variety, you had better have none at all. The outlandish, landpike, alligator, thistle-digging brutes that some people keep, and which usually disgrace our city and village streets, are worse than useless. Uneasy, ravenous brutes, they are not only a pest to themselves but a nuisance anywhere. There is no thrift, profit, or grace about them, and they should never be tolerated on a well-ordered place at all. Nor are we particularly fastidious about the breed, as to whether it be pure or mixed, Berkshire, China, Essex, Suffolk, Middlesex, or Mocha. A compact, quiet, well-disposed pig, is the thing we want; one that takes in flesh kindly, eats its meal, lies down and goes to sleep, as a well ordered pig should do, and our object thus far is accomplished. We would keep a breeding sow for these reasons: One hog can always be fed at small expense through the Winter. The wash of the kitchen, with the surplus milk, and a trifle of corn, oats or

other meal, will carry her through the Winter. You can command the time for your pigs to come. If you have a surplus, they can always be sold to your neighbors at a good price, reserving the best for yourself, from which you can have the choicest lard, besides hams, shoulders and joints, for smoking, and some capital side and body pork for family use, the value of which every good housekeeper understands, in various ways. The sow should produce her litter according to climate, say from February to April, not later, for the Spring pigs should be fed off in the late Fall or early Winter months, not exceeding ten months old at the longest. If the breed be good, they will be full, ripe and fit for slaughter at that age, and frequently at six to nine months. At six weeks to two months old they are fit to wean, and the sow may then bring you a second litter in August or September, which will serve for roasters, or sale as you wish. We would not Winter these late pigs, as, unless there are extraordinary advantages in the way of food, they will not pay. A sow from two to six years old usually breeds better than a young one; therefore, we would prefer, if a good breeder, to keep her in the business, unless she becomes vicious, in which event she should be fed off and slaughtered.

For accommodation of the pork department in its best way, if more than two or three are kept, a spacious, warm building, with a boiling apparatus for cooking food, is necessary,—that is, a pig house with two or three separate compartments, where they can be divided off, as age, different feeding, or other convenience may require; and to this should be added a little paddock, or grassy yard, with water in it if possible, although this latter article may be furnished in a trough. If they have the run of a yard they should always be *run*,—anybody knows how to *ring* a pig,—and the best way we have ever practised, is to take a common horse nail, made half an inch longer than usual, run it up from the underside of the nose, and then, with a pair of pincers or pliers, curl over the point as compactly as possible, and the job is finished. The nail, what is left of it, will move freely up and down, and prevent their rooting equally as well as a twisted wire, and last a great deal longer. In the warm season this grass yard is healthier, and every way better for the pig than a close pen, giving him exercise and pure air, which he needs, as much as any animal on your place, although in himself a dirty creature. A warm dry bed he should always have, and enough to eat of good food. Besides the swill, and milk, and other slops, he is fond of grass, weeds, fish or other *fresh* animal offal—which, by the way, is no offence to the flavor of his own flesh—and a variety of food in general. Good well-cooked corn meal is the very best food to finish him off with, and if to this be added boiled pumpkins, and roots of any kind, it will be quite as well. Understand, the pig must be kept *clean*. If he be inclined to scurf or dandruff, an application of soft soap, with soft water, and a vigorous appli-

cation of the brush, will add to his health and enjoyments. He will lie down and receive the application with positive satisfaction; or, if that be too much labor, sprinkle wood ashes on his back plentifully just before a smart shower, and expose him to it for an hour and it will do the business. A clean-skinned pig will thrive far better than a scurvy one. Let him have a post in his pen to rub his sides on.

We do not commend the pig as one of the *companionable* inhabitants of the place, like the noble and gentle creatures enumerated in our previous essays, but as a necessary, economical and convenient appendage to every country establishment. Your Paddy neighbors, sometimes, regard them differently, sharing frequently the domicile of the house, door-yard and highway, in common. For these we have no sort of toleration, and in our own way of thinking, the pig should be always out of sight, and only to be found, seen and heard, when he alone is the object of search, sight or hearing.

MECHANICAL PREPARATION OF THE SOIL.

NO. III.—DRAINING.

[Continued from page 102.]

Before referring to the kinds of land needing draining, we will briefly allude to two advantages not referred to in our last.

7. Water, air and most other fluids do not *conduct* heat. Float a dish of alcohol on the surface of a vessel of cold water, and set it on fire. Now, though heat enough will be produced to boil the *surface* of the water, there will not be heat enough conducted *down* to melt a piece of ice lying but a few inches below the fire. We boil a kettle of water by putting fire at the bottom. The lower portions becoming heated, are expanded and made lighter, and rise up, while other colder, heavier portions sink down. In this manner heat is *conveyed*, or carried upward, and not *conducted* downward from particle to particle, as in solid bodies. The same is the case with air, the heated portions rise up. The sun's rays do not heat the air, but the earth and the air in contact with the soil rises and heats the air above, or rather changes places with it. The application of this to our subject is this: A soil filled with water will only be heated at its surface, the water being a non-conductor of heat prevents any portion from being heated except a little of the surface. But when the water is removed by draining, the soil itself will conduct the heat down and warm the roots of plants.

8. Water in changing to steam or vapor, secretes or hides a great amount of heat. Steam really contains more heat than melted lead, though but a small portion of this heat is *sensible* to the touch, or indicated by a thermometer. We can not stop to discuss this interesting anomaly, but merely state the fact to show why a little water remaining upon the soil, and constantly evaporating from its surface, is the cause of much coldness. Though rising merely as cold vapor it carries away an immense amount of heat

which should remain to warm and stimulate the roots of growing plants. Let us here sum up some of the more prominent

ADVANTAGES OF DRAINING.

1. Draining, by rapidly removing the water in the Spring and after heavy rains, and by warming the soil, is equivalent to lengthening the season, and gives a wider range of cultivated plants, a longer season for growth, and a longer time for plowing and working the ground.
2. Land freed from excess of moisture, expands much less in freezing, and the roots of Wheat, Clover and other crops remaining in the ground over winter, are not destroyed by winter-kill.
3. In hot weather, the circulation of warm, moist air through the open drains, condenses moisture in the cooler soil, and furnishes additional security against drouth.
4. The free access of air renders poisonous compounds of iron, manganese, &c., inert, and Clover and other deep rooted crops will not be killed, but they will continue to grow and flourish from year to year.
5. The depth to which the roots penetrate in soils freed from poisons and filled with air, secures to the plants sufficient moisture to withstand the surface effects of drouth.
6. Water by sinking through the soil into drains, is prevented from washing the surface into gullies, and from carrying away into streams the richer soluble portions of soils and manures.
7. The removal of the standing water allows warmth, which can not descend through a body of water, to penetrate farther into the soil.
8. By causing the water to descend into drains, instead of evaporating from the surface, another chief source of coldness is removed.
9. Rains in descending through the ground, carry the heat of the atmosphere with them, and thus warm the soil and roots of plants.
10. The presence of water causes soils to bake, so as to render them hard to work, and also to prevent the free growth and expansion of roots.
11. When all excess of water is removed, compact and clay soils become light and pulverized by working them.
12. The free circulation of air in the soil, carries in ammonia, and other fertilizing substances to the roots of plants.
13. The air circulating in the soil, decomposes vegetable acids and removes sourness; and the decomposed vegetable matter furnishes organic food for the growing plants.
14. The roots extend farther and deeper into the soil, get a firmer hold upon it, and draw nourishment from a larger area.
15. Removing the water from the pores, admits the air which is essential to the growth of the roots.

WHAT SOILS NEED DRAINING

The considerations above presented, show that there are very few soils, no matter how dry, apparently, which would not be improved by thorough under-draining. There are few so constituted at the surface and below, as to furnish all the advantages of a system of open under-channels. As a brief general rule we would say: go into any field, four or five days after a free fall of rain, and dig a hole three feet in depth. If after an hour or two any water collects and remains in the bottom, it may be considered as a settled fact that the soil will be improved by draining. The degree to which this will be beneficial may be judged of by the amount of standing water, by the quantity of rain which has previously fallen, and by the length of time after its fall to the period of making the examination. We have often made a survey of this kind during the driest Summer months when but little rain had fallen for many weeks previous, and yet at a depth of two to four feet from the surface, abundant moisture would ooze out from the sides of a hole; and sometimes this has happened when crops upon the surface were parched with drouth. The constant presence of the sub-water had prevented the roots from going down beyond a few inches, and from reasons previously; and now with a partial failure of the water near the surface, the

plant is left without adequate moisture to furnish a flow of sap to supply the evaporation from the leaves. Such soils must be drained to yield profitable returns for cultivation.

If water runs freely over the surface soon after a light shower commences, we may know that the soil is already filled with water.

Wherever a cellar drain is needed, we may know there is a compact soil below, which will keep too much water above it.

If during warm weather, and at a dry season, we find on digging down two feet that the soil is moist, or very damp to the touch, and forms a damp compact mass by working in the hand, this is a pretty certain indication that the soil suffers from an excess of moisture.

In searching for these wet spots, it will be readily seen, from the considerations above presented, that it is necessary to examine a great number of places in each field, and especially those that are less productive.

There are comparatively few soils which are of such a character that rain water, and that from melting snows, will readily settle down through them (not run off over the surface).

A little knowledge of "Geology,"—enough to understand the character and arrangement of the soils that make up the surface of the earth, would materially assist in the comprehension of this subject. A column or two devoted to this subject will not only be interesting, but afford much practical information both with reference to treating land, and selecting farms, and especially with regard to laying out and sinking drains. Let us inquire

How were soils originally formed, and how are the materials forming them arranged in the earth's surface?

The surface of our plants consists of large masses of water, and rocks covered over with various depths of sand, clay, pebbles, &c., called soil or earth. Sometimes this soil is hundreds of feet in depth, sometimes but a few feet or inches, and sometimes the rocks come to the surface. We usually find solid beds of rocks by digging down a few feet only.

The surface soil is composed of a vegetable (organic) part, and a mineral (inorganic) part. The organic part is merely decayed and decaying vegetable matter, such as leaves, roots, grasses, &c., which have in process of time become commingled with the earthy part. This is usually found only in a few inches of the surface soil; though in peat beds it often extends many feet downward. This organic or vegetable part—which can be readily burned off—usually constitutes but a small portion of the surface soil; while the rest, and all below, is a mass of earthy, inorganic matter, made up of sand, clay, gravel, large and small fragments of rocks, pebbles and large rounded stones, called boulders.

These soils—with the exception of the organic part—are entirely made up of broken, finely pulverized, and decomposed rocks; and were all probably once in the form of solid rocks. Whenever a stone of any kind is

exposed to frost, heat, rain, or a moist atmosphere, it is continually decaying; little particles of various substances, such as sand, clay, potash, lime, magnesia, &c., are wearing from its surface and these mingling together form new soil. All rocks and stones exposed to air are continually decreasing in size and weight, and never growing as some have supposed. Take from your field the very hardest stone, carefully clean, dry and weigh it, and lay it back in the field for a year or two, and again weigh it in the same manner, and if the balances are delicate, they will certainly show a decrease in the weight of the stone. A pile of rocks, or a stone fence, remaining for a short time only, will enrich the ground by additions of new soil. More than one-half of many soils are yet undecomposed, as may be easily ascertained by separating the finer portions with a sieve. The effect of plowing, Summer fallowing, ridging in winter, &c., is to hasten the decomposition of these, adding new soil from the gravelly portions.

To illustrate the manner in which our present soils were originally formed, gather from the field a quantity of large stones of various kinds, such as slate, granite, &c., wash them clean from adhering soil, and subject them to strong heat and sudden cooling a few times, and also to freezing and thawing. After they are thus in part broken into fine pieces, put them with water into a vessel and let them be agitated till the corners of the small and larger pieces are rounded. After this allow the mass to settle, and we shall have at the bottom a soil like that in our fields. In this case, the rounded stones will first fall to the bottom, the gravel next, the coarse sand next, and the fine sand and clay will settle last upon the top.

If at successive intervals, we pour portions of these mingled materials and water into the raised end of a long box, having an uneven bottom, there will be formed in the bottom of this box different layers of gravel, sand, clay, &c. The gravel will usually fall near the raised end, the coarse sand next, the fine sand next, and the clay and finest sand will settle last—in greatest quantities where the water is deepest, producing a clay soil; in less quantities with the lower sand forming a *clay loam*—that is much clay with little sand—and in still lesser quantities higher up forming a *sandy loam*—that is much sand and little clay—while some of the clay and fine sand will be mingled with the gravel. After a few additions of our new made soil, we shall have in that box a representation of the arrangement of soils on the earth's surface. Here will be clay, there sand; in this place gravel, and in that masses of stones; in one place clay loam, and in another sandy loam; and there will be successive layers of these, one above the other.

By similar processes, we suppose the loose materials of the earth's surface have been produced and arranged. "In the beginning," we may suppose the earth's surface to have been composed of various solid rocks. In long periods of time, by the action of volcanoes, heat, frosts, water, and air

these masses of rock were broken up, pulverized, decomposed, producing a mass of soil. Different kinds of rocks, such as granite, limestone, &c., produced different kinds of soil; and at some period every part of the surface of the earth has been covered by vast quantities of moving water, which have still farther ground and worn and mingled, and sometime separated these decayed masses of rocks, soils, &c., and left them as we now find them, sometimes in masses of pebbles or gravel with finer portions, sometimes bodies of sand, and again beds of clay, and in other places all these mingle together. These are however, more frequently deposited in layers lapping upon or underlying each other.

This arrangement is one of great importance in connection with the subject of draining. If we examine the side of a well while it is being dug, or the sides of a canal, or a railway excavation through a high bank of earth, we shall see good illustrations of this general arrangement below the surface. There are thin beds of clay, perhaps but a fourth of an inch thick, and others may be many inches or feet, and with these can also be seen beds of gravel, loam, &c. These beds do not lie in regular layers, like boards one above the other, but are very variable in their form; sometimes horizontal or flat but more frequently inclined or curved. Fig. 1 will give an idea of some of these arrangements.

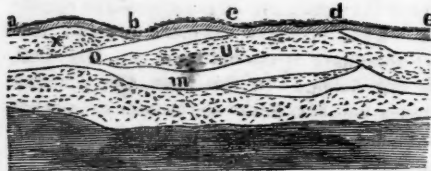


Fig. 1.

From a to e we have a thin layer of surface soil, mingled with organic matter. X is a loam subsoil, and the surface from a to b is the same with the addition of vegetable matter. O and m are beds of clay, and over these we have clayey surface soils. U is a gravelly loam with similar surface soil from c to d. These separate beds may be a few feet only in length, or they may each extend many miles.

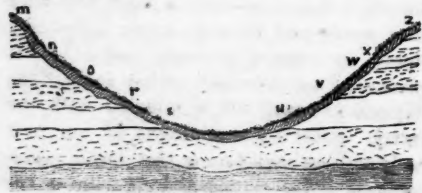


Fig. 2.

Fig. 2 represents a valley, with portions of the adjacent hill-side lands. Different layers of clay, loam and gravel are shown coming out upon the side of the hills, and giving character to the thin layer of surface soil which extends over the whole. [The depressions, like the valley here shown, may be supposed to have been produced by currents of water washing out hollows. So the sides of the hills were probably washed away as shown in Fig. 3.]

Fig. 3 gives a section of a hill, in which a

similar arrangement is shown. In this, y is

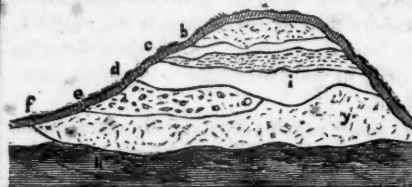


Fig. 3.

a bed of sand which may be found by digging down between e and f. These layers of sand are very frequent, and are dug out for building. The same may be said of the bed of gravel between d and e.

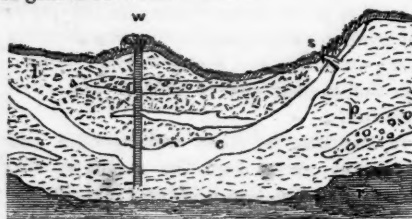


Fig. 4.

Fig. 4 shows a still different arrangement, in which l is clayey loam, enclosing beds of gravel and clay; c a curving bed of clay; p a porous mass of gravelly soil, of large extent; w is an artificial or artesian well; s a natural spring, and r the underlying rock.

There is another arrangement, however, which is much more frequent, and which deserves a careful examination. These different beds of porous and compact soil or rock are generally inclined at a greater or less angle, as shown in the following figure:

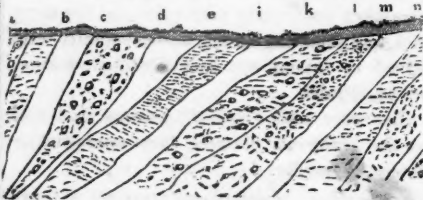


Fig. 5.

We can readily see here what is the effect of such an arrangement upon the surface soil. Over the finer, more compact subsoil, as between e and f, l and m, the water will sink less readily than over the gravelly portions between c and d, k and l; while over the compact clay portions between b and c, d and e, i and k, m, and n, we should have wet, heavy land. We have seen single fields on which a dozen different layers came up to the surface and produced as many variations in the composition of the soil, and an equal number of wet and dry spots; and, again, we have seen places where some of these single beds occupied several miles of surface. Half a dozen farms may lie upon the upper part of each of these divisions, and in other cases we shall find all these beds of different soil cropping out upon a single farm. [To be continued.]

PROVIDE FOR THE TURNIP CROP.

Next month will be the time to put in seed for a large supply of roots for feeding next Winter. Do not use up all the ground for other purposes. Five hundred to a thousand bushels of ruta bage turnips can be grown on an acre, and how can you get more or better Winter food for your stock!

PLASTER AND AMMONIA.

VALUABLE EXPERIMENTS BY PROF. PORTER.

One of the settled points in the theory and practice of soil culture is, that ammonia is a valuable fertilizer for all, or nearly all growing plants. It is this substance that gives so high a value to Peruvian Guano, to urine, to horse manure, &c. Every one is acquainted with ammonia as it escapes from the stables, from chamber slops that have stood for a few hours, and from "Hartshorn smelling bottles." It is also well known that this is a very volatile substance, which escapes into the air rapidly and is lost. To "fix" and retain the ammonia in manures is an important operation. This may be readily done by the addition of a little dilute acid, such as sulphuric acid, (oil of vitriol,) hydrochloric acid, (called also muriatic acid, and spirits of sea salt.) The inconvenience of handling these acids, and their expense, has always been an objection to their general use.

For several years past we have recommended adding to all kinds of animal manures—a frequent sprinkling of sulphate of lime, usually called gypsum, or plaster of Paris. This is a compound substance, made up of sulphuric acid and lime. When brought in contact with substances containing ammonia, the ammonia takes the sulphuric acid away from the lime, and forms a new compound, called sulphate of ammonia, (sulphuric acid and ammonia,) which not being volatile, remains in the manure to be given up to plants.

But it has been asserted by many that the dry plaster added to a manure heap, or to guano, will not unite with the escaping ammonia and retain it. This is an important point, and although we had settled the matter to our own satisfaction, by a number of experiments made three or four years since, last winter we requested Prof. John A. Porter, (Professor of Organic Chemistry in Yale College,) to make such experiments as might be necessary to settle the question. We give his reply below. It will be observed that the mass of horse manure experimented upon, was placed in the same condition as a heap of stable manure, viz.: a moist or fermenting portion below, with a dry portion over it. We will here repeat our oft-given advice, to always have at hand a barrel of plaster, and mix a small portion of it with every portion of animal manure made in the stables or yards. There is, in our opinion, no doubt as to the practical advantage of this course.

To the Editor of the American Agriculturist:

SIR: In reply to your inquiry, I would state that I sometime since undertook to settle the conditions of the absorption of ammonia by sulphate of lime, or gypsum, by direct experiment.

Before giving the result, let me premise, for the sake of clearness on what is to follow, that ammonia always escapes in company with carbonic acid, in case of the fermentation of manures, and indeed in all cases of advanced decay or putrefaction. It is also in the form of carbonate of ammonia that it exists in the air. The point then to be decided is, the action of gypsum, or sulphate of lime, on carbonate of ammonia.

As to the retentive power of gypsum to ammonia in the presence of abundant moisture, as for example, when mingled, with putrefying urine, or thrown upon night soil in a vault, there has never been a doubt. It may be remarked here that it is not, strictly speaking, the gypsum that fixes the ammonia, but the sulphuric acid which the gypsum contains. This acid unites with the ammonia, forming sulphate of ammonia, thus fixing and retaining the floating material by destroying its volatility, and giving it the form of a permanent salt. The remaining elements of the sulphate of lime and carbonate of ammonia, unite at the same time and form carbonate of lime. The whole action is simply an "exchange of partners," or what is called in chemical language, a double decomposition.

But it is a singular fact that the partners *change back* again just as soon as they get dry. The new alliances do not stand the pressure of hard times. As soon as moisture is gone, the ammonia leaves its new partner, and yoking itself again to the old one goes on its way as it started, in the form of carbonate of ammonia. The production of smelling salts by mixing sulphate (or muriate) of ammonia and chalk, is a consequence of such a *changing back* to carbonate of ammonia (the volatile constituent of the smelling salts) and sulphate (or muriate) of lime, which remains permanently in the phial.

It may also be shown by a very simple experiment that dry gypsum will not retain carbonate of ammonia. If the powdered materials are mixed and moistened, and afterwards exposed for a few days to the air, it will be found that the carbonate has left the gypsum entirely, and escaped into the air.

It would seem, then, at first sight, to be established that a covering of gypsum on a dry manure heap will not insure the retention of the ammonia. What *seems* dry, however, may not be, in reality, perfectly dry. It certainly is not, if fermentation is going on beneath it. For, in the first place, somewhat abundant moisture is essential to the process, and this moisture must escape with the products of fermentation. And again, the very process itself which produces ammonia out of the elements of the fermenting substance, produces water also out of the elements of the same material. For these two reasons, therefore, we may always be sure of a certain portion of moisture where fermentation is going on. The *practical* question is, whether the moisture is in sufficient quantity. My experiments seem to answer this question in the affirmative.

EXPERIMENTS.

The experiments were made by covering fermenting stable manure with a layer of the same material (stable manure) perfectly dried over a fire, and then upon this a thin coating of ground gypsum or plaster.

The fermentation was carried on in a covered pail, so arranged that all the gases and vapors rising from it could be drawn off and tested. Before covering with the plaster, there was an abundant flow of ammonia through the layer of dry manure, but the layer of plaster being added, *no particle of ammonia escaped*.

The usual condition of a manure heap, even in hot weather, would be much more favorable to the retention of ammonia than in the experiment described. The heap would rarely if ever be dry to the depth of an inch. Even if this were the case it would seem evident from the above experiment that sufficient moisture would escape with the ammonia to insure its fixation by the plaster. But it is to be borne in mind that where the surface is comparatively dry, more plaster must be used. The covering must be quite per-

fect, as in this case the plaster has little opportunity of diffusing itself by solution, as it does, to a considerable extent, in a moist heap.

JOHN A. PORTER.

New Haven, April 29, 1857.

CONCENTRATED FERTILIZERS AND
BARN-YARD MANURES.

EXPERIMENTS WITH THEM.

The position taken by this journal in regard to concentrated manures is, that they only hold a secondary place, and that a farmer with good facilities for making manures upon his own premises has little occasion to resort to them. Bone-dust and guano may sometimes be used to good advantage on particular crops, but the main reliance of the cultivator must be upon the muck swamps and the excreta of his own stock. We have come to this conclusion after some years of careful experimenting and close observation of the practice of good cultivators.

A clerical friend, who has a penchant for farming, gives us the following records from his field-book of last year. The experiment was designed to test the comparative value of barn-yard manure with purchased fertilizers. His soil is a sandy loam, and lacks vegetable matter, though it is alluvial in its formation. He planted corn in half acre strips, making six plots for as many kinds of manure or mixed fertilizers. The whole ground was manured with ashes and plaster, at the rate of six bushels of the mixture to the acre. This was put on at the first two hoeings:

No. 1 was manured with 14 one-horse cart loads of stable manure. The result was 54 bushels of ears of good corn, and 16 of soft.

No. 2 had 225 pounds superphosphate of lime (bought in New-York city), with ashes and plaster. The result was only 9 bushels of good corn, and 9 of poor.

No. 3 was manured with 112 pounds of guano, 112 of superphosphate mixed with muck, so as to make the bulk of the whole 13½ bushels, besides the ashes and plaster. The crop was 22 bushels of good ears, and 30 of poor.

No. 4 had 112 pounds of guano, and 6 bushels of salt, with the dressing of ashes and plaster. The result was 27 bushels of good corn, and 8 of poor.

No. 5 had guano, salt, superphosphate and plaster mixed in equal proportion, so as to make the cost equal to either of the above. The result was 33 bushels of good ears, and 10 of poor.

No. 6 had 225 pounds of guano, and 1 bushel of plaster. The result was 38 bushels of good ears, and 10 of poor.

He designed to have the manure upon each plot equal the value of the 14 loads of stable manure, which he thinks cost him not over fifty cents a load. It will be seen from these results, that seven dollars worth of stable manure secured much more corn than the same amount of money invested in other fertilizers, and that the guano and plaster were next in their productiveness. The re-

turns from the superphosphate are so meager, that there is good foundation for the opinion of our friend, that "it was not worth a button." The natural yield of the soil with the dressing of ashes and plaster could hardly have been less. There is little doubt that thousands of tons of a bogus article are every year sold for superphosphate.

The returns from the whole three acres are 302 bushels of ears, of which it will be seen 70 grew upon the half acre fertilized from the stable. The average upon the remaining five plots is 46 bushels. Had he spent his seven dollars in muck and labor, making compost from the stable manures, he would have had 24 bushels more of ears upon each of the remaining plots, making 120 bushels, or 60 of shelled corn. As corn is worth about a dollar a bushel, the experiment has cost him about sixty dollars, to say nothing of his own time and trouble in preparing the manures, measuring the plots of ground, and the crops. One can see in these facts, that it costs something to make agricultural experiments, and the need of an experimental farm supported by the State, where such results can be wrought out for the public good, at the public expense.

Owing to early planting, he had all his corn-field to plant over. As the result of his experiments, his conclusions are:

1. To make his own manures and eschew concentrated fertilizers.
2. Not to try to plant too early. The very last week of May is early enough.
3. To cut up corn by the ground, and not top it.
4. To raise less poor corn, if possible. It was mere moonshine in feeding out.
5. To keep account of the expense of raising the various crops upon the farm.

These are sound conclusions, and will commend themselves to the good sense of our readers.

NUMBER OF POUNDS IN A BUSHEL
IN THE DIFFERENT STATES.

The following is in a more convenient form than the table we have previously published.

ARTICLES.	New-York.	Ohio.	Pennsylvania.	Indiana.	Wisconsin.	Illinois.	Michigan.	Connecticut.	Massachusetts.	Rhode Island.	New-Jersey.	Vermont.	Maine.	Canada.
Wheat, b.	60	60	60	60	60	60	60	60	60	60	60	60	60	50
Rye	56	56	56	56	56	56	56	56	56	56	56	56	56	56
Corn	56	56	56	56	56	56	56	56	56	56	56	56	56	56
Oats	32	32	32	32	32	32	32	32	32	32	32	32	32	34
Barley	48	48	48	48	48	48	48	48	48	48	48	48	48	48
Buckwheat ..	48	48	48	48	48	48	48	48	48	48	48	48	48	48
Cloverseed ..	60	64	60	60	60	60	60	60	60	60	60	60	60	60
Timothy seed	44	42	45	45	45	45	45	45	45	45	45	45	45	48
Flaxseed ..	55	56	56	56	56	56	56	56	56	56	56	56	56	56
Hempseed ..	44	44	44	44	44	44	44	44	44	44	44	44	44	44
Blue grass s'd	14	14	14	14	14	14	14	14	14	14	14	14	14	22
Apples, dried	22	25	30	28	24	28	28	28	28	28	28	28	28	22
Peaches, dried	32	33	33	33	33	33	33	33	33	33	33	33	33	33
Plums, dried ..	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Coarse Salt ..	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Fine Salt	56	50	62	50	50	50	50	50	50	50	50	50	50	56
Potatoes	60	60	60	60	60	60	60	60	60	60	60	60	60	60
Peas	60	60	60	60	60	60	60	60	60	60	60	60	60	60
Beans	62	56	60	60	60	60	60	60	60	60	60	60	60	60
C. Beans	46	46	46	46	46	46	46	46	46	46	46	46	46	46
Onions	57	57	57	57	57	57	57	57	57	57	57	57	57	57
Corn Meal	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Mineral Coal ..	70	70	70	70	70	70	70	70	70	70	70	70	70	70

We have not in all cases been able to correct these figures by comparing them with authorized copies of the laws, but we believe they are nearly if not quite accurate. Should any error be discovered we will republish the table with corrections. The letter m signifies sold by measure.



"DOUBLE DUKE."

Bred by J. M. Sherwood, Esq., owned by Chas. P. Wood, Auburn, N. Y. Dropped June 6, 1855—color, Roan. Got by 3d Duke of Cambridge, (5941); dam, Red Rose 5th, by 3d Duke of Cambridge, (5,941) 2d dam, Red Rose 2d, by Napier, (6238); 3d dam, Tuber Rose, by South Durham, (5281); 4th dam, Ro-e Ann, by Bellerophon, (3119); 5th dam, Rosette, by Belvidere, (1706); 6th dam Red Rose, by Waterloo, (2816); 7th dam, Moss Rose, by Baron, (54); 8th dam, Angelina, by Phenomenon, (491); 9th dam, Anne Boleyn, by Favorite, (252); 10th dam, Princess, by Favorite, (252); 11th dam, Bright Eyes, by Favorite, (252); 12th dam, Bright Eyes, (bred by Alex. Hall) by Hubbuck, (319); 13th dam, Bright Eyes, by Snowdew Bull, (612); 14th dam, Beauty, (bred by Thos. Hall) by Masterman's Bull, (422); 15th dam, Duchess of Athol, by Harrison's Bull, (292); 16th dam, Tripes, (bred by Mr. Pickering) by Studley Bull, (626); 17th dam, bred by Mr. Stephenson, of Ketton, in the year 1739.

SUMMER FEED FOR CATTLE.

CORN AND SUGAR-CANE FOR SOILING.

For several years we have earnestly recommended our readers to plant or drill in corn or millet for "soiling" cattle; that is, for cutting up and feeding while the crop is green. Every succeeding year has confirmed the profit of this course. During the dry season, and especially in case of a drouth, there will always be a period of short, dry pasture, and then nothing comes in better than a quantity of green succulent food, just such as growing corn cut up and fed two or three times a day, either in the field or stable. Cattle will thrive upon it, cows will continue a full supply of milk, working oxen keep in good heart and be ready for heavy Fall work, and animals to be fattened will continue in good flesh, and instead of losing, they will show the good effects of such food when fat carcasses are desired. All neat stock, thus got well through the worst part of the Summer, will be better prepared for the Winter campaign. We say then, again, drill in a half acre or an acre, or several of them if you have a large stock, and our word for it, you will find it valuable two months hence. It is best to sow, say one-third of the plot very soon, one-third ten days after, and the remaining third ten days later still; or a small portion may be reserved for sowing about the close of June. This will provide a continuance of green food until a full growth of Fall grass. Sow the corn thickly, in drills wide enough apart to admit the cultivator or plow between them, and keep down the weeds. Any portion not required for green food may be cut while still green, and dried for Winter forage. One who has not tried it can have scarcely an adequate conception of the great bulk of rich cattle food that a single acre of corn will produce. Millet sown broad-cast answers a similar purpose, and is by some preferred. It can be treated, green or dry, similarly to Timothy or clover. Oats, when sown late, and very thickly, make a good material to cut up and feed

green, and especially to gather and dry late in the season. Should they head out, all the better. The great amount of rain we are having this Spring, indicates a dry Summer, and care should be taken to provide for any such emergency.

CHINESE SUGAR-CANE FOR SOILING.

Though holding this new plant somewhat "at arms' length" until more thoroughly tested, we think it well worth while to give it a pretty full trial this season as green and dry food for cattle. We do this the more freely now, as there appears at last to be a pretty good supply of seed offered at a reasonable price. During the winter, we could scarcely get enough at any price, to furnish even a little to each of our subscribers for trial. Large supplies of good seed, not then known to be in existence, have since been obtained from France, and there is enough to meet all present demands, offered at 75 cents per pound.*

The sugar-cane, on account of its large and rapid growth, and its solid, sweet pith, promises to excel corn for cattle food. It may be planted for feeding, almost any time during June—probably the earlier the better. Sow it thickly, in drills, say three feet apart, covering the seed not over half an inch in depth, unless likely to be very dry, in which case it will be best to put it deep enough to prevent parching out when it first sprouts. It will germinate in a very few days. It is said to do well even on poor soil, but we advise giving it as good treatment as Indian corn. We are slow to believe that a plant growing so large and vigorously will not do best on a generous, rich ground. For drilling thickly in rows, not less than three pounds of seed to the acre will be required, and a larger quantity will be still better. In hills three feet apart, with eight seeds to the hill, which would allow of part of the stalks being removed if all the seeds should grow, a pound would plant half an acre; or one

* We shall ourselves have a small surplus which we can part with at less than cost to such subscribers as may desire to experiment with it for feeding purposes. Before closing up this number, we will refer to this matter again, on a subsequent page.

pound would suffice for an acre, if only four be allowed to the hill; but as with corn, it is far better to use an abundance of seed, and cut out superfluous stalks when they are well started. When seed can be procured for 75 cents per pound, it is better in drilling to drop a seed every two or three inches. One seed to three inches, in rows three feet apart, will require about 2½ to 3 pounds of seed to the acre, as there are a trifle over twenty thousand seeds to the pound.

Sugar-cane for Fattening Cattle.—An intelligent and reliable friend, who visited the Kentucky State Exhibition last Autumn, says he was there informed that the animals which took the first premium for "Fat Cattle," had been fattened on the Chinese Sugar-cane. If this be so, it is an important item of information. We were not aware that there was enough raised at any point in Kentucky to be used for this purpose. Can any of our readers in that State inform us as to this matter?

BREAKING COLTS.

L. M. S. sends us the following on this topic:

Is it not much better to break colts to the halter while very young, than to wait, as is usually done, till they are nearly one year old? I think it is, and have my reasons for this opinion. In the first place, like every other creature, they are more plastic, more readily molded by the hand of a master in their infancy than at a later date; and thus a fiery, high-spirited animal, may be made perfectly submissive without a resort to severe measures. The work, when done at this period, is also more perfectly done, and the lessons which they receive are indelibly stamped upon their future character. "As the twig is bent the tree's inclined," says the trite and truthful proverb. But I have a reason still more weighty to our own mind; I have tried it, and am not wholly a theorist. In my experience, I have found that colts at one year old can be broken with very little of the trouble and danger, either to himself or owner, that is usually experienced, and the valuable lessons of submission thus taught, has always shown itself at the more trying time of actual service.

SPAYING HEIFERS AND COWS.

This is a subject we have had in mind for some time past, but have had no opportunity to investigate it properly. There has been an occasional article published, but there seems to be no well-settled opinion, in the country generally, as to its practicability, or advantages and disadvantages. We shall be glad to devote some space to its discussion, and will be thankful for communications from our readers both for and against the practice.

When formerly engaged in raising various kinds of grain at the West, we found it profitable to keep from twenty to fifty hogs, or enough to glean the stubble fields, and our invariable practice was to spay all sow pigs not kept as breeders. Of the feasibility of this practice we have not the slightest doubt, and reasoning from analogy alone, we should say that the same practice would be found profitable if applied to other kinds of stock. In the *Agriculturist* for February, 1856, we published an article from Dr. Heckerman, of Tiffin City, Ohio, setting forth in strong terms the advantages of feeding young children with milk from spayed cows. The reasoning seemed to be conclusive in favor of this course. Since then we have made several inquiries for an operator, but have not succeeded in finding a responsible one in this vicinity who had sufficient faith in the practice, and his own skill, to undertake to spay a milch cow eight years old and warrant the animal to live. If there be any such person hereabouts we shall be glad to hear of him, both on our own account, and in behalf of several others who have made inquiries on this point. We think no one but a practised operator should undertake the work—one who has confidence enough in himself to warrant the animal to do well.

We call for information, not only as to the general advantages and disadvantages of this practice for heifer calves, but also for milch cows of different ages. What has been the result of spaying cows from three to eight years old? If a cow, say six years old, be spayed three, six, or more months, after calving, will the operation be perfectly safe, and how long will the animal continue to give her full supply of milk? As this operation counteracts the breeding instincts of the animal, so to speak, will there not be a gradual decline in the propensity to secrete milk? The following communication is to the point. We will find room for any others offered, if from those acquainted with the matter, and not merely expression of opinion:

To the Editor of the American Agriculturist:

Spaying cattle is extensively practiced in South-western Virginia, almost all heifers, except those intended for breeding purposes being spayed. It is done either the Fall after they are calved, or the following Spring; the Fall is the better time, as they are then more easily handled, and seem to do better. The plan generally pursued is this: take a stick about two and a half feet in length, and of sufficient strength to sustain the calf; bind a hind leg to each end of the stick by means of leather straps. Then with a fence as a fulcrum, and a

legs from behind, the other end pressed down, and the calf swung almost off the ground, with its back against the fence—after the manner of a slaughtered hog—all is ready for the operation.

The incision is made just in front of the udder, and of sufficient size to admit two fingers of the operator. Any one who can spay a hog can spay a calf, and a careful hand rarely ever loses one. It is necessary that they should be gaunted, by being kept from food or water for about twelve hours previous to the operation.

It is customary to cut up a small piece of skin on the throat or under jaw, which forms a small teat when it heals, and thus indicates that the animal has been spayed. Spayed heifers fatten very kindly, and other things being equal, I believe they are preferred to any other beef by many. Mount Zephyr, Wythe Co., Va. B. W. S.

PUMPKINS.

"Some pumpkins" has, in certain circles, passed into a proverb, as indicating a person of unusual merit. We accept the motto. It embodies the popular idea of the value of this rustic luxury, whose homely name may grate harshly on "ears polite," but which has still all the merit which the proverb implies. Pumpkins are excellent for pies, as everybody knows. Who could keep a New England Thanksgiving, even on the banks of the Mississippi, without them? When dried properly they may be kept nearly through the year, and they serve instead of succulent food when the latter cannot be had. But the main value of pumpkins to the farmer, is the use he may make of them in the Fall in hastening the fattening of cattle. It is a long-standing opinion of the oldest farmers, that they stimulate growth, and in the early stages of feeding are about the best food that cattle can have. Such experience is a good guide, even if no analysis may be quoted, or scientific experiments tried.

Pumpkins are of easy culture. Plant them with corn or potatoes, or "stick" them in the corn hills a few days afterward. If they die, little labor is lost. If they come forward and do well, you have a great addition to your food for cattle in the Fall, at almost no extra expense. In good seasons, five to ten wagon loads an acre is no uncommon yield.

The conditions favorable to a good crop, are, new land, or turf newly turned over; early planting to escape the bugs; a warm genial soil; a rather damp season, and good culture of course.

Planted with potatoes, or by themselves, they have more sun, and succeed rather better than when planted among corn. But they have been, thus far, so capricious that they are rarely planted alone. If seed is to be saved, pumpkins should never be planted near squashes, melons or cucumbers. They mix so that you cannot predict what the seed will produce the next year. We know of but two varieties,—the common one, found everywhere; and the "mammoth pumpkin," which sometimes weighs over 200 pounds. Get the seed of some experienced farmer, who has a real taste for pumpkins, and you will not go far amiss. Plant the seed perseveringly, especially on new land or the sod, along with corn or potatoes,

and you will have a crop, often enough to repay four-fold for your trouble.

In the Fall select the fairest and ripest for drying, and feed the rest to cattle that are being fattened, or to store cattle. Break or chop them into tolerably small pieces. They will thus be eaten easily.

They are not reckoned good for milch cows, being supposed to diminish the quantity of milk. They may be kept in the cellar for Winter use. But they are easily frozen, and it will be the best economy to feed them mostly out before Winter closes in.

When you have a good crop of large fair pumpkins, it is well to dry as many as you can. They will bring a good price at the nearest large town. There are plenty of village and city people who would gladly buy, at almost any price, a supply of nicely peeled, clean, well-dried pumpkins. In but few places has this been offered as a market article. We suggest a trial of this the present year. If you get the villages and city folks to buy and try your dried pumpkins, instead of the little 25 cent. cans, both you and they will afterwards thank us for these suggestions.

ARTIFICIAL SWARMING OF BEES.*

As June is the season for natural swarming, it is also the best time for making artificial colonies, by driving out a portion of the bees from their hive. This plan has many things to recommend it, and the bee-keeper should make up his mind at an early day whether to adopt it or not. The following are some of the advantages:

1. It secures a regular and rapid increase of hives or stocks, while the non-swarming plan does not provide for any increase at all.
2. It saves one the disappointment and loss of time which result occasionally from an unaccountable refusal of the bees to swarm at the proper season.
3. It enables the bee-keeper to choose his own time for swarming, instead of waiting for weeks to accommodate the bees, or losing them when he has gone to market or to church.
4. It obviates the danger that two or more swarms going out the same day, will unite.
5. It enables those who wish to sell the increase of their stocks, to furnish strong swarms at any time which may be agreed on.
6. It is in fine a great saving of time, trouble and vexation.

Precaution.—Never attempt to force a swarm until the drones have made their appearance. Usually it is best to do it only when the bees are collecting honey freely.

How to do it.—We prefer altogether the process detailed by Mr. Langstroth, which is substantially as follows: About the middle of a day when the bees are abroad in great numbers, gently lift the hive to be operated upon, carefully turn it upside down, and put it on the ground several feet from its usual stand. Put over it a box of as nearly the same size as possible, which has slats within for convenience of clustering, and holes covered with wire-cloth for ventilation; taking care to cover all the cracks and entrances with paper or cloth, so that not a bee can escape. Next, place an empty hive on the stand as a decoy to catch the bees returning from the fields.

*See Notes upon Bees, for a notice of Mr. Langstroth's New Work, and for additional information upon the Italian bee we give from a work not referred to by Mr. L.

Then proceed to drive the bees out of the first hive into the upper box, by constant drumming with the hands upon the sides to which the combs are attached. The bees finding escape impossible, proceed at once to fill themselves with honey, and in the course of fifteen or twenty minutes will retreat with the queen to the upper box. When the greater part have gone up, the box is to be quickly lifted and placed upon a bottom board, so as to confine the bees, and yet furnish them with air. If this forced swarm is to be removed to the distance of a mile or more, it should be treated exactly like a natural swarm, while the first hive is set back in its original place instead of the decoy; the bees from the fields will be glad to regain their home; a new queen will speedily be provided, and the maturing brood will make good the place of those expelled.

The plan thus far described, we have pursued with gratifying success. If, however, the bee keeper wishes to retain the forced swarm, and cannot send it away for a time, something more must be done. Mr. Langstroth confidently recommends a process which we have not yet tried. He announces as a new and important discovery, that "nearly all the bees which have entered the decoy hive, if now presented with their own, will adhere to it even when its location is changed."

His advice, then is, *after the foraging bees have returned* to the old hive, now standing in its former station instead of the decoy hive, take up this old hive and put it in a new place, and in the old place put the hive prepared for the forced swarm. Shake out before it, upon a sheet, the bees forced into the box, and they will quickly ascend and make themselves at home in their new quarters; and having a fertile queen will construct worker cells, and do in all respects as well as a natural swarm. If, however, the new swarm should be kept in by a storm, or by a temporary failure of the honey-harvest, it would be prudent to give them a little food.

Where shall the swarm alight?—For those who prefer natural swarming, we have a single hint that may be of great service. An eminent apian, last Summer, threw his black hat into a small tree as his bees were swarming, and they at once alighted upon it. It may be that any black object that looks like a cluster of bees, (an old cap, a piece of cloth, or whatever is convenient,) will attract them to a spot where they may be easily reached. Try it.

RAINY DAY RAMBLES—NO. IV.,

AMONG THE MILK FARMERS OF LONG ISLAND.

To the Editor of the American Agriculturist.

I had often noticed a lot of milk cans, glittering in the sun, as I rode by my friend Jackson's, and, knowing by the fine appearance of a herd of thirty cows in a field adjoining, that the pure article must be furnished there, if anywhere, I determined to call, and will proceed to relate how the Queens County farmers manage this branch of business. My friend took me first to his stables, to show me his arrangement for stalling and feeding them. The barn was over 100 feet in length, and a hovel adjoined it at right angles in the form of an L. An alley ran from the barn-floor to the corner where he had a room with a cistern beneath for wetting the feed. Over this was a large bin, holding 1,000 bushels or more. A spout from this leads the bran to the feeding box, placed under the pump spout, so that he could wet his feed with little labor. From this room a similar alley ran along the hovel to the end, which was wide enough to throw down the hay and carry the feed to the cows. He said "there are many

ways of making stalls for cows, but I like best to have them about 4½ feet wide, with a partition 3 feet in length between each two. The cows are fastened by cattle-ties, that play on a post near the stall, and secured by a staple to it, so as to allow it room to play when the cows lie down. He had windows with shutters, so that it could be made dark, to keep the tormenting flies away; for, he said, we have to milk, for six months, in the middle of the day here. Our regular feed for cows is wheat bran and Indian meal, say eight bushels of bran to one of meal, and also all the pumpkins, beets and carrots, that we raise."

I asked about turnips for milch cows, and what effect, if any, it had on the taste of milk. He said, "in small quantities, cut and mixed with feed, they gave no unpleasant taste; but green rye, musty hay and stalks, and sedge hay, often spoiled their milk. As soon as we milk, it is set into tubs of cold water, and stirred until it is cool. This drives away the animal heat and preserves it sweet much longer. In Summer it ought to be cooled as low as 70° before being sent away, but lower is better, if we have time. We generally pay a quarter of a cent per quart for its carriage to the Long Island Railroad, and they charge one-third of a cent to carry it to Brooklyn. Our price this year is to deliver at Brooklyn at three cents a quart for half a year, and four cents the Winter half. So you perceive our pay is small, in comparison to other farm produce; but we feed our grain and much of our hay, and all of the straw, at home. This gives a large supply of excellent manure, which I think is about all the profit. We cannot purchase a middling cow for less than \$45, if she is dry, and they add from \$16 to \$30 if she has a calf, according to the quality." He answered to my inquiry about improved short horned cattle, that he always purchased the best cows he could find; it took no more to keep a good than a poor one. The extra price more than compensated."

He said "the Durham may give richer milk than good natives, but he questioned their averaging more in quantity. We don't look for the richness; the quantity is what we want." Well, I asked, if you had a cow that gave milk of superior richness, why not bring it to a par with the other portion by the addition of a little water? "Well, the fact is, if we did the citizens would find it so much better than swill milk, which they used to have, that they would know it." "Why," he said, "there are several well attested facts of their complaining of the thickness of the milk. They thought the milk-man had thickened it by adding flour." He told many amusing anecdotes of the milk business, one of which was that many upright milk-men have to add water, and reduce the price in the same ratio, or else lose their customers, for citizens will not buy the pure article and water it to suit. *Perhaps, too, they think the milk-men being so long accustomed to it, can do it better.* Cleanliness is very necessary in producing good milk, the cans require thorough washing, and every thing they feed should be sweet and fresh. A large number of farmers purchase brewers' grains in cold weather, to give in equal quantities with bran and meal. It is cheaper feed than grain, yielding more milk from the same cost, but some milk-men say the milk is not so good, and will not keep sweet as long as that made from grain alone.

He said "there was one advantage that every one could observe in those that kept a large number of cows for the sale of milk. Their cows were finer in appearance, and superior in quality, to those that did not, and they continually increased the productiveness of their farms." "And," he continued, "we have mowing and

harvesting machines now to cut our grass and grain, and we can increase our lands in fertility without limit, if we wish." I asked his opinion about the profit of raising carrots and beets for cows. In reply, he stated that "he and several others had made small trials, but nearly all abandoned it now. It takes a large quantity of manure to grow them of good size, and a great amount of labor of the most tedious and unpleasant kind. They needed the greatest attention in the most busy portion of the year, and they are an uncertain crop every way with us. We like beets better, as they come up surer, are easier thinned, sprout in half the time, often starting before the weeds, while carrots are behind them. I think they will yield more loads to the acre, and I do not perceive but they afford us as much milk. It may not be as rich for butter, but that is no object to us. Take the same amount of labor, manure and time, and devote it to the culture of Indian Corn, and I believe it will be more profitable.

"We make great use of corn, planted close, for cattle feed in the latter part of Summer. We could not succeed with so many cows without it, especially in dry Summers. If there is any left, that the cows do not require, I allow it to stand until the stalk is cured, and then cut it up for fodder, and excellent fodder it is too, when properly cared for."

Before taking leave I inquired how much milk he, or milkmen generally, averaged per cow a year. "That depends upon the quality of cows you keep. I think 10 quarts multiplied by the number of cows we milk is a fair average, although many exceed it, and as many fall below it." Having obtained all the information I wished, I took leave of my clever informant, and in the same manner will treat my friend, the professor, and his friends. S.

PROPAGATING THE CRANBERRY.

To the Editor of American Agriculturist.

I have noticed many advertisements of the Cranberry plant, and also different modes of propagation. If one buys the roots, and sets them out in a congenial soil, he will be obliged to wait many years for those roots to cover the whole surface planted, and will be unable to reap a full harvest for a long time. The best method of propagating the Cranberry is this: Prepare the ground by plowing, taking off the turf, or burning. Pulverize the soil as you would to sow a crop of grain. Procure vines from any cranberry meadow by mowing with a scythe. Pass them through a common hay cutter, leaving them in lengths of from two to three inches. After they are thus cut sow them broadcast, and harrow them in well; or if your ground is too soft to use a team upon, cover with a common garden rake. The month of May, or early in June, is the best season to plant. If the soil be of a peat formation, a coating of sand or gravel will be beneficial. The Cranberry vine is very tenacious of life, and will throw out roots from every joint when placed in the soil. There are three distinct varieties, or shaped Cranberries, viz.: the oblong, the bell and the round. You will find these three kinds in any natural Cranberry meadow in Massachusetts, one or the other preponderating, according to soil and locality. A. RICHARDSON.

East Medway, Mass.

LICE ON HOGS

Show a careless feeder, and neglect of their comfort. A pig wants regular feeding, thrice daily by the clock. A dry lodging place, with plenty of clean straw, changed once a week. A pig thus treated, never becomes lousy. But when they become lousy by neglect, a dose of sulphur in the feed, and washing with tobacco water about the parts of the body most infested, will effect a cure.

For the American Agriculturist.

LESSONS IN LIFE—NO. 2.

FARM CONVENIENCES.—BY A GLEANER.

"Where did you get your new wheelbarrow Mr. A.?" "Oh, my boys got it up last week, while wife and I were 'snowed in' over to Uncle G's!" "Well done," says the astonished neighbor, "got up by them ar boys, and that cold week tew, why we never thought a doing anything over our way, only to bundle up and see to the critters, and then back into the house; I ollers wished my boys would take some notion to work with tools like, but they don't seem to." Now, candid reader, you have heard these neighbors talk, let me explain a little. "Mr. A." reads the papers, and raises good crops, by the application of that same article which a celebrated painter mixed with his paint, namely: brains. He knows that nature never made a mechanic; do not start! I mean never produced a person whose bump of mechanism was so fully developed, that he could make a substantial wheelbarrow out of four-inch scantling and hemlock fence boards, by the aid of a rusty saw, a one claw hammer, and a two inch chisel, the identical materials and tools to be found in the (not) shop of the first speaker. And knowing this, the latter has profited by the remembrance of his own boyish years, when he would have rejoiced at the sight of an edge tool, (with an edge,) and has portioned off a comfortable space on one side of his carriage-house, placed therein a good supply of the most needful tools, and also a supply of the different kinds of wood, of various sizes and shapes, not bought outright, but sawed to his order from logs of his own raising; and besides this the apartment contains a stove, for, otherwise, many of the days which can now be spent there would be wasted.

Now for the *practical* part, which our editor always insists on. What does it amount to? I answer, much every way. A farmer's life is made up of little things—his income; his outgoes; and he that has to 'shell out' for every article of farm use, even to buying a wood-box, will find, as I have known, a light purse in his pocket oftentimes, and will, besides, be more likely to become dissatisfied with farming than he who can help himself, to not only grain, meat, fruit, &c., but can employ the many odd hours of a cold winter in making the numerous articles of wooden ware which every farm establishment needs, both in doors and out. I would be glad, very glad, to occupy a whole page of every number of the *Agriculturist* in giving my ideas of what farmers might do to remove the inconveniences found about the establishments of so many of them, and I would endeavor to make every word practical too, but the Editor could not possibly spare me the space. [Yes we can for many such chapters.—Ed.] I will, however, beg for a little more room to name some of those things which I call inconveniences.

Let us take the barn for instance; did you ever see a barn with a small, dark granary? I have, and I knew that if there was not room to make it larger, it could easily be made lighter by substituting a four light window for a piece of board. Did you ever see an old man climbing up, in one corner of his barn, on door, and beam, and brace, to get to his hay? I have, and I knew that he had done just so for years for want of a ladder. Are there not very many barns needing that very thing? Does your barn need one? Then pluck up the energy and have the ladder put up, nay, put it up yourself, then climb up it, and stand on the big beam and crow. Once more, did you ever see a barn door with a stick set

against it to answer the purpose of a latch? I have, and admire the plan, for then, if one is detained away from home, the cattle can knock down the stick and help themselves to food they often ought to have.

THE WASTE PLACES AROUND VILLAGES, FARMS, &c.

To the Editor of the American Agriculturist:

It has ever been a matter of surprise to me, that intelligent citizens should allow the great waste of lands which they do. A parcel of ground is stony and it is in consequence half tilled, if tilled at all. It is run over, leaving here a "balk," and there a "cut and covered." The plow, the harness and the hoe, show the effect of too great contact with stones, to say nothing of the great waste of strength of man and beast in working among them, while fences and drains are wanted near by. Brush is suffered to grow along the fences and around stumps monopolizing too great a share of the field. A little spring of water is suffered to saturate and spoil the land for valuable culture for rods around it, when a little draining would make it the most productive parcel upon the farm. Nooks and corners made by buildings and fences are left uncultivated because so small—overlooked as not worthy of attention.

How many of our *villagers* neglect the little plots where a bed of salad or radishes might be cultivated, while they eat stale or wilted garden sauce from the markets, and lose the double luxury of eating fresh food, and the satisfaction of having raised it, joined with the healthy appetite derived from pure air and gentle exercise. Not long since your correspondent occupied a village "tenement" in a block of buildings that had attached a back yard descending from the house to the north—a very shady unpropitious spot filled with refuse from a shoe-maker's shop, a meat-market and a tailor's shop, with old shoes, stove-pipes, etc., until it was not far removed from a nuisance. It became necessary for health and comfort on taking the premises to abate the nuisance. The rubbish was buried in large pits dug for that purpose. The ground was then thoroughly spaded, and amid the jeers of neighbors, it was planted with cabbage from a neighboring hot-bed, and a bordering of beans and a plot of cucumbers added. The ground was cultivated each morning at sunrise, and at the proper time a more noble growth of cabbages I never saw. Two would have been a pretty good load for a man. The table was supplied with delicious vegetables while our good neighbors came in for a share. Need I say that I was abundantly repaid by the health and comfort of the exercise, by the pleasure I took in seeing them prosper, and the convenience of having them?

Again, fruit-trees could, and ought to be introduced among the shade trees upon vacant places. We have heard much commendation bestowed upon those who plant shade trees, and they do a benevolent act. But would it not be noble to set fruit trees on our village "greens?" The pear, the chestnut, the cherry, the plum and even the apple-tree, might be trained to grow tall, and would be an ornament, and with proper regulation might be a benefaction.

Again, our public streets should be bordered with trees. In some European Countries, we learn they do so, and the fruit in the Fall is sold to the highest bidder, and the proceeds appropriated to promote further culture, and to keep the streets in repair. Our public school grounds ought to be thoroughly furnished with fruit-trees, and a parcel of ground devoted to floral culture

and vegetables; a bed of radishes and salad would give a relish to the "bread and butter" of the scholars' dinner. A good harvest apple, a choice plum, a ripe cherry, would not come amiss on the occasion.

But I would not recommend it for the pleasures of the palate alone. I would make the school-yard and the school-room inviting by strewing the path of science with flowers and golden inducements. Let the school aspect be the farthest possible removed from that of a prison. Let good taste be cultivated, practical science taught, and the mind made practical by the strongest incentives. Let none say that children would destroy such things, or that such embellishment is impracticable. It has been done and can be again, without difficulty in most of our country schools. "Where there is a will, there is a way."

BALLSTON SPA, N. Y.

C. T. H.

SYRUP FROM THE NEW SUGAR-CANE.

An Estimate of the Cost of Cultivating ten acres, making the Syrup, Profit, &c.

We are not yet prepared to advise fully in regard to the particulars of trying the new Sugar-cane for syrup this season. We have planted an acre solely to experiment on this point, but have not yet decided what kind of mill we shall procure, nor what boiling apparatus will be best adapted to our own circumstances. The common two and three cylinder roller-presses, in general use at the South, will do the business, but we are in hopes to find one better and cheaper, perhaps in that prepared by Messrs. Hedges & Free of Cincinnati. With respect to the cost of manufacture, in a recent conversation with Mr. Samuel Clapham, of Cold Spring Harbor, N. Y., we requested him to furnish an estimate of the cost of culture. Messrs. Clapham & Hewlett are putting in a large surface solely for making syrup, or sugar if found practicable. We give his reply, but with the present limited experience we are not prepared to say that 500 gallons of syrup per acre will be an average yield here, though last year Mr. Hewlett obtained 70 gallons from one-fourth of an acre, with but a rude pressing apparatus of his own construction. Nor are we certain that it will be best to undertake to save seed from the canes used in making syrup or sugar. The figuring is evidently too high:

COLD SPRING HARBOR, L. I., May 4, 1857.

To the Editor of the American Agriculturist:

According to promise I send you an estimate of the cost of raising and producing syrup from 10 acres of Sorghum. In making my calculations of the cost, I have reckoned everything at the full prices, and I am sure that I have not over-estimated either the quantity or the price of the syrup:

Ten quarts of seed (present price \$1 per quart).....	\$10 00
Planting and cultivating 10 acres, at \$15 per acre.....	150 00
Two men 30 days pressing, at \$1 each.....	60 00
Two horses 30 days pressing, at \$1 each.....	60 00
One man and one boy boiling 30 days, at \$1 50.....	45 00
Ten cords of wood, at \$4.....	40 00
Use of pressing machine and boilers, 35¢ per cent. on cost \$250.....	85 00
Sundries.....	50 00
Total.....	\$500 00
165 barrels for syrup, at \$1 25.....	206 25
Total cost of 5,000 gallons (14 cents per gallon).....	\$706 25
The leaves or dry fodder, I consider, pays for cutting and carting.	
PRODUCE OF TEN ACRES.	
5,000 gallons of syrup, at 50 cents per gallon.....	\$2,500 00
250 bushels of seed, at 50 cents per bushel.....	125 00
	\$2,625 00
Cost of producing as above.....	706 25
Net profit.....	\$1,918 75
Yours, &c.,	S. C.

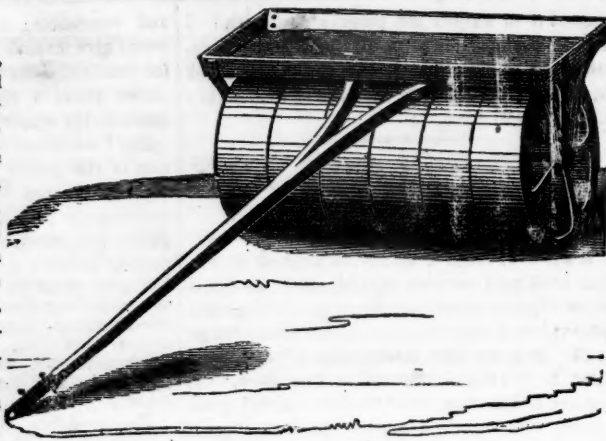
THE ROLLER.

Though, as a general thing, we recommend keeping land as loose and permeable to air as may be, yet there are many cases in which the use of a roller is highly advantageous, if not absolutely necessary. Light sandy soils are improved by compacting the surface with a heavy roller. All lumps on clay or heavy loam lands, should be crushed with a roller. Where there is not danger of packing the ground too much, wheat and clover fields should be rolled in the Spring, as soon as the team can walk over them without sinking in. This will press in the roots heaved up by frost. All surfaces are improved by smoothing them with a roller after sowing grain.

But the most important use of this implement is upon land being prepared for mowing. There is a double advantage here. Grass seeds require but a very light covering of soil. If the surface be at all lumpy, the seed sown will drop between these, and the roller passing over will crush them down and cover the seed sufficiently without any harrowing or bushing. Then, again, a heavy roller will level and smooth the surface, flattening the miniature hillocks, and burying all small stones out of the reach of the scythe or mowing machine, and leaving the field like a floor. Any loose stones not leveled down by this implement should be picked up and thrown upon the box, to be carried off to the fence, for the time being.

There are several modes of constructing rollers. The most primitive is to saw off a smooth log, six to eight feet in length, and put an iron pin into each end, to which a frame is attached. An improvement upon this is, to cut out discs and nail strips of narrow plank around them to form a drum. This gives a larger diameter for a given weight, and by attaching a box to the frame, stones can be thrown in to increase the weight whenever desired. The larger the diameter of the roller the easier will be the draught, and the ground will be left smoother.

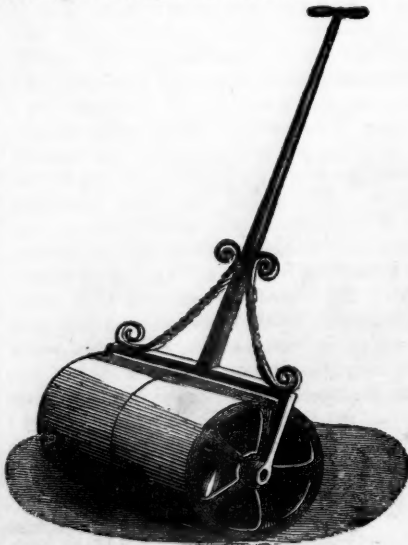
One great objection to the old-fashioned rollers is the difficulty of turning them round. This is in part obviated by dividing them in the middle, making two rollers instead of one, so that the two may revolve in opposite directions in turning; but even then there will be more or less dragging. The better plan, by far, is to make half a dozen or more short sections, as shown in the cut, each piece turning independently of the others. A log might be sawn into short pieces, and all put upon a single iron shaft. But with these the diameter is too small for the weight; and unless metal boxes are inserted in each piece, the wood will soon wear away. The cheapest roller, in the long run, is one made of hollow cast-iron cylinders, as above represented. These are 20 to 30 inches in diameter, the larger the better, and 12 inches in length. The usual size for field rollers is six of these sections, each 28 inches in diameter, and weighing 160 pounds. A larger diameter would, we think, be still better. A box for holding stones, weeds, &c., and for adding weights, is very desirable. One of this description costs, all complete, about \$75. Where a farm is not so large as to require the exclusive use of one, two or three or more persons could unite in purchasing. They are sometimes made of a lighter weight and sold a trifle less. Seven or



eight dollars is also deducted for each roller less than six.

It will be observed that in a roller of this construction, should a section chance to be broken, the others can be moved together without delaying the work, and the broken parts can be sold for old iron, or be exchanged in part for new. There is no "patent" for this mode of construction. It is generally cheaper to buy such implements of those who make a business of manufacturing them, but in this case those living at a distance from any factory, will perhaps find it better to buy the sections, and get the frame constructed at home, as the latter would be unwieldy to transport. The rollers will go at the lowest price of freight, and can be bought ready-made for six to eight dollars each, according to size and weight. Any blacksmith can cut and fit a round iron rod for the shaft or axle.

A hand-roller of two sections, like the one here shown, can be bought for \$12 to \$18.



HOUSING TOOLS AND CARTS.

There is great temptation, at this busy season of the year, to leave plows, harrows, carts, &c., in the field where they are likely to be wanted to-morrow. But to-morrow, when it comes, is perhaps a rainy day, and the result is, that a good tool stands out in the weather for a week. The injury done to tools by this exposure is much greater than is generally supposed. It is slight, at first, and perhaps imperceptible, and that is one reason why so many farmers are careless of their tools. The rain will find its way into the joints, and then decay will com-

mence, and in some time of need, when the strength of the tool is tested, it will give out.

Every farmer should have sheds for all his vehicles, and a house where every tool is stored, when not in use. They are not only kept dry in such a place, but they are always on hand when wanted, or if not, they can be more easily traced to the delinquent who left them out of place.

This is quite as important for iron and steel implements as for those of wood. They are immediately covered with a coating of rust when exposed to the wet, and this is a serious hindrance to their comfortable use. Plows, hoes, spades and shovels should be cleaned as often as used, and put up in a dry tool-house.

"THE WEATHER! THE WEATHER!!"

These words are in everybody's mouth, hereabouts. The rain is now (May 20, 3 o'clock P. M.) pouring down and drizzling, by turns, and so it has been doing for three days, and for two months past, with occasional intervals. Some time since, we predicted a "dry time," because all the rain in the store-house of the clouds must have "come down," but here it comes again. We have nearly a hundred kinds of seed in the ground, where we begin to fear many of them will stay. Our neighbors say their potatoes, corn, &c., will surely rot, if they were not frozen by the snow that fell last night, and the cold of the last few days. A friend just in from Western New-York says, the farmers there having failed so often of late years in attempting to get a wheat crop, have nearly all determined to try barley this Spring; but part of them cannot get a chance to sow, and what has been sown is rotting. Nearly a hundred letters received from the West, South-west, and from Canada, this week, bring bad reports of the wheat prospects, and speak of cold weather, and a wet, late Spring. The prospect for Spring crops is worse, even, than in 1854. But still we hope for the best. The "Bow of Promise" is still in the clouds, and we are sure seed-time and harvest will not fail. Let us, however, make the most of the season that yet remains. There will be plenty of time to plant corn; and with a good crop of this, famine need not be feared. (See remarks on this topic, at pages 105 and 140.) A good supply of manure will hasten forward the crop. Those who can get it readily, will find good Peruvian guano a stimulant to rapid growth. If used, mix it thoroughly with the soil around, but not in contact with the roots. Put in a quantity of corn, or millet, or oats, or sugar-cane, to be cut as green food for the cattle, since one extreme usually follows another, and a dry Summer may be looked for after this wet Spring. Those who have our numbers for May, 1854, will do well to refer to page 145, and read the advice we then gave under circumstances like the present, in an article headed, "Will there be a Great Drouth the Coming Summer?" We then predicted a dry season, and urged putting in plenty of corn for soiling, against July and August drouths. Hundreds afterwards wrote to

thank us for the advice, which they had followed, and others will do so this Summer, if the drouth does come, and if it does not, they will not find the crop to come amiss under any circumstances.

Those who fail to get in their usual Spring crops, will remember that turnips can be sown for six weeks yet, and this is a crop not to be despised or forgotten. We shall have more to say of it in our next number.

SPARE THE CALVES.

To-day, May 20, beef cattle are selling in this city at higher prices per head than horses; at least, poor cattle are going for a hundred dollars per head and more, and poor horses will not bring that. We have seen sales to-day of plenty of good cattle at \$120 to \$130, and from that to \$150 each, and other sales have been made at higher rates still. Now these prices are not the effort of combination or speculation. *There are not cattle enough in the country, young or old, to meet the demand.* Pray don't sell any more calves for veal, at \$2 50 a head, nor double that price. Calculate the comparative cost of raising a calf and a colt, and act accordingly.

MANAGEMENT OF HEDGES.

In a recent number we gave some account of the best plants used for hedges. We now add a few remarks on growing and managing them.

The line of the fence having been determined on, mark off a space four feet wide, and if on a field give it a thorough plowing, if in smaller grounds trench it. Most plants will live in any ordinary soil, but if one wishes to form a rapid-growing and vigorous hedge, the ground should be manured. And in doing this care should be taken to make it of uniform richness throughout its whole extent, otherwise the hedge will not grow up in uniform height and vigor. Let the soil be carefully examined all along the line, and the cold and wet, or dry and barren spots, be brought into a good condition.

Most of the plants of which we have spoken, can be grown from the seed, either on the spot they are to occupy, or in the garden or nursery, and then transplanted when one year old. They should be sown like peas, in drills two inches deep. But where time is of any account, it is better to buy yearling plants from the nurserymen; they can be purchased at about \$5 or \$6 a thousand plants. Before setting them they should be assorted, planting on any particular line those only of uniform size and health. The tops, also, should be shortened, so that when planted they will rise only two or three inches above ground. Double rows are often planted in alternate lines; this makes certain of a strong barrier; but it is thought by many that a single row, well cared for, answers every purpose. Set out the plants by a line, six inches apart in the row. Keep the ground well hoed for the first two or three years, and if a little manure is worked in every year it will not be labor or manure thrown away.

The most important thing in the management of a hedge is its pruning. Most men are impatient to see their hedges get up to the required height. During the first two years, especially, the plants look small, and when the time of pruning comes, most persons can't bear to cut them down, as hedge law requires. The consequence is, that the plants shoot up tall and thin, and so far as making a hedge is concerned, they are almost worthless. A writer in one of our Western agricultural papers, recently stated, as the result of his extensive observation, that full one half of the numerous hedges throughout the West are nearly useless as hedges, and that from the very cause of which we have just spoken. *A hedge is comparatively worthless if it does not have a good bottom, and that is obtained, if ever, during the first two years of its growth.* We therefore call especial attention to this. The treatment should be as follows: The first year after planting, head it back to within one foot of the ground; the next year to eighteen inches, and the next to two feet and a half, adding only one foot's growth each year, until the desired height is reached. The sides should also be sheared six or eight inches annually, and the whole hedge kept in a conical shape. When fully grown, it should be trimmed twice a year, say in June and October. A hedge so grown, will be well grown, and will afford much satisfaction.

DESIRABLE HARDY SHRUBS.

Having lately given some directions for the planting of shrubbery, we now add a list of some of the best sorts of deciduous (leaf-shedding), which will grow with ordinary care in any common garden soil. It should be premised, however, that all shrubs, to succeed well, must be set in good earth, and occasionally manured and dug about afterwards, to keep down weeds. If planted in exposed situations, they need tying to a stake the first year, to keep them erect: they should also be pruned a little, from year to year, to remove dead branches and those of awkward growth.

In making a collection of shrubs, it is not advisable to search for novelties, to the neglect of old sorts. As a general rule, the old are better than the new. They have held their place in gardens from one generation of men to another, because of their intrinsic excellence. And then, the wealth of charming associations which they possess is enough to endear them to every heart. Hold on, then, to the old: make them the staple of your collection, adding the new only after they have been well tried and approved.

SHRUBS FROM TWO TO FOUR FEET HIGH.

Mezereon (Flowers in April).—This little bush sends out its bright pink flowers almost as early as the Snowdrop and Crocus. Indeed, as we now write (near Utica, N. Y., April 10th), we look out upon a bed of blooming Crocuses, and near by is a bush of the *Mezereon*, whose swelling pink flower-buds are plainly discernible. And, to com-

plete our picture, within a few rods are huge snow-banks! The flowers of the *Mezereon* are fragrant, and appear scattered along the branches before the leaves unfold. They are succeeded by berries which are said to be poisonous. There is a variety with white flowers, and another which blooms in Autumn. This plant thrives best in a moderately dry soil, and should be transplanted in the Fall. For northern latitudes especially, where the season of flowers is so short, it is a very desirable shrub.

Prune-leaved Spiræa (May).—While the *Mezereon* is an old-fashioned plant, this is, comparatively, a new comer. Yet we have known it long enough to like it well. It is a China-man. Its leaves are small, branches slender, flowers small but pure white and double, resembling miniature roses. It should have a place in the smallest collection.

Reeve's Spiræa (June).—With some, this is no less desirable than the last mentioned. Its flowers are not double, and here it requires a little protection in Winter. Bending the tops to the ground, and throwing over them a few shovelfuls of earth, is all the care it requires. Its leaves are dark green, flowers of sunny whiteness, formed in clusters. Its branches have a very graceful, drooping habit, which will attract the eye of every amateur. Propagated by layers and cuttings.

Douglass' Spiræa (June to September).—This is a recent addition to the large family of *Spiræas*, and it is welcome, deserving an honorable place. Its flowers are plum-shaped, about the size of a lady's finger, rose-colored, fragrant, and are produced in succession nearly all Summer—a valuable and uncommon trait in a shrub.

Graceful Deutzia.—A charming little shrub, with modest white flowers scattered profusely along the branches. Perfectly hardy. The smallest garden should have it.

Weigelia (May).—There are two varieties of this plant (*Rosea* and *Amabilis*), the one having pink blossoms, the other white. Both are desirable acquisitions. Leaves broad like the syringa, flowers funnel-shaped, two inches long. *Amabilis* often blooms twice in a season. Both propagated by layers or cuttings.

Peter's Wreath (May).—Here is hardiness enough for anybody, and beauty thrown in. Foliage delicate, flowers ditto, white as snow, and formed in wreaths along the branches. As it blossoms early, before all remembrance of Winter has passed away, it often appears when in flower as if a light fall of snow had just been deposited upon it.

Japan Quince (April).—A first-rate, early flowering shrub. One variety has fiery red blossoms, often called in England, "Fairies' Fire," and another has blush-colored flowers like those of the apple tree. The first-named is the most striking, foliage dark green, always glossy and fresh, and its blossoms, when the sun shines upon them, resemble coals of fire.

Persian Lilacs (May and June).—These are the city cousins of the old-fashioned white and purple Lilacs. The last-named

are among the best of our large shrubs; the Persians are smaller, with more delicate foliage and blossoms. Their fragrance, also, is less strong. Josikea and Charles X. are excellent varieties.

Flowering Almond (May).—Sometimes called Double Dwarf Almond; a very fine, early flowering shrub, so well known and so much admired as to need no description or recommendation.

To these we might add the Garland Deutzia, Calycanthus, Deep-green Forsythia, Corchorus and many others, but the above are sufficient for an ordinary collection of small shrubs.

SHRUBS FROM FOUR TO TEN FEET HIGH.

Upright Honeysuckles (May).—It will be hard to find more desirable shrubs than these. There are two varieties, one with white, the other with pink blossoms. They both form neat, compact bushes, with globular heads. The foliage appears quite early in Spring, and remains fresh throughout the season. The blossoms cover the bush in every part, and are quite fragrant. These are succeeded by crimson berries in the Fall, of which the robins are exceedingly fond.

Fragrant Clethra (August).—Not so fine in its habit and foliage as the last-named, but its spicy, rich-scented plumes of flowers make it worthy of cultivation. It is a great favorite with those who happen to possess it.

Flowering Currants (May).—Here is a family whose acquaintance is worth making. The common Missouri Currant, with its yellow and sweet-scented flowers appearing in May, should form part of every collection. The crimson-flowered, double and single, are very desirable, but in some situations the double variety is a little tender. Gordon's Currant, said to be a cross between crimson and yellow, is hardy and excellent.

Fringe Trees.—Of these, there are at least two sorts, the Virginian with white flowers, and the Venetian with red flowers. Of the first, it has been well said that "the flowers which appear early in June in great profusion over all the branches, look like tissue-paper fringe most exquisitely cut, and contrast, in their snowy whiteness, admirably with the dark green foliage."

Altheas (August and September).—With those who have seen this class of shrubs, we need not spend words in their praise. To us, their great attraction lies in their late flowering, making the garden gay after nearly all other shrubs have done blooming. The single varieties are the hardiest: the double often have abortive flowers.

Burning Bush.—Often called Strawberry tree, and Spindle tree. These are excellent shrubs for massing. The foliage of the European is darker than the American, and hangs on very late in Autumn. The American fades off in September into a rich, purplish crimson. The broad-leaved European is, however, the flower of the family. All of them have bright scarlet seed-vessels in Autumn, which hang on in Winter, and produce a striking scene.

But we have exhausted our space without exhausting the subject. We might speak of the Berberry, the purple-leaved variety of

which produces a fine effect against a background of evergreens; of the Silver Bell tree, with its pendant, bell-shaped flowers; of the red-twigged Dog-wood; the Missouri Silver tree, with its grey branches and leaves; of the Syringas, the flowering Hawthorns, scarlet and white; the Indigo shrub; the early white Viburnum, and many others too numerous to mention. The above-named are the cream of the catalogues.

THE PEAR AND CHERRY SLUG.

The *Selandria Cerasi* is one of the worst enemies of the fruit-yard, and this is the best month for making war upon him. Though this slug attacks the cherry tree so much that the tree has given it a name, it is found upon the pear quite as often as upon the cherry. The fly which lays the egg is of a glossy black color, except the first two pairs of legs, which are a dirty yellow, with blackish thighs, and the hind legs, which are a dull black, with yellowish knees. The wings are transparent, with iridescent hues. The body of the female measures rather more than one-fifth of an inch in length; that of the male is smaller. They usually make their appearance upon cherry, pear and plum trees, from the last of May to the middle of June. They begin to lay their eggs very soon, just within the skin of the leaf, on the under side, and in about three weeks disappear. In two weeks from the laying of the eggs, the young slugs begin to make their appearance, and are found upon the trees from the first of June to the middle of July, according as the eggs have been deposited, early or late. The slugs are at first whitish, and then of an olive color, and covered with a slimy, adhesive coat. They grow to nearly a half inch in length. Their shape is something like small tadpoles. They live mostly upon the upper side of the leaves, completely sucking out all their juices, and leaving them a mere mass of fibres. They have a disgusting odor emitted from them. Where they are sufficiently numerous—and they soon will be in any place, if neglected—they completely destroy the foliage in mid-Summer. The tree, of course, attempts to repair the injury it has sustained, and immediately develops the buds it had formed for another year. This prevents all fruit bearing, and if the process is often repeated, the tree becomes exhausted, and dies.

The slugs remain twenty-six days upon the tree, during which time they cast their coat five times. They then burrow in the earth a few inches deep, in little cells which they form for themselves, and at the end of sixteen days re-appear in the fly form, again to lay a second brood. The leaves of the fruit trees are again covered in September and October, and the slugs descend again to the soil, to remain during Winter.

Both insects and birds prey upon these slugs, but they multiply, notwithstanding their natural enemies, and the mutilated trees invoke human aid to rid them of these pests. Fortunately the task is not a difficult one. As the slugs appear upon the upper

side of the leaves, they may be easily covered with powdered lime, or with ashes which adheres to their slimy bodies until they die. A small sieve fastened to the end of a pole is a convenient article to put on the lime with. But most of them may be killed by simply throwing on the lime or ashes with the hand. This treatment should be followed up once a week, as long as any slugs are to be found upon the trees. Whale oil soap dissolved in water, in the proportion of two pounds of the soap to fifteen gallons of the water, and sprinkled over the trees by means of a garden syringe, will effectually destroy them.

If the fruit-grower will follow up these applications, he will rid himself of the pests, and raise fine cherries, pears and plums. The trouble with most fruit growers is, that they neglect remedies until their grounds are completely stocked with insects. Good fruit will not grow in the ground of the slothful.

INSECTS INJURIOUS TO FRUIT.

These are busy during the present month, depositing their eggs for new broods. Young and tender fruits afford favorable situations in which to propagate their species, the pulp of the fruit or berry affording both protection and food for the newly-hatched insect. To successfully combat the various tribes which prey upon the products of the farmer, gardener, and fruit-grower, requires a careful study of the character, habits and transformations of the insect world, much of which is very imperfectly understood by cultivators generally. We can only give a brief description of a few in the present number, confining our remarks chiefly to the means of destroying those injurious to fruit, and particularly which require looking after this month.

Curculio, or Plum Weevil. (*Rhynchus Nephelæ*.) This insect has of late years been so destructive to plums, nectarines and apricots, that fruit-growers, in many localities, have abandoned their culture. The beetle, in its depredating state, is of a brownish color, about one-fifth of an inch long, and has much the appearance of a dried bug. It commences stinging the young fruit as soon as it is formed, and continues till about the middle of July. A puncture, of a crescent form, is first made with its proboscis, or snout, into which it deposits a single egg, and so continues until the supply is exhausted, as it usually selects a new plum each time. The egg soon hatches into a minute whitish grub, of a maggot appearance, which commences burrowing slowly towards the centre of the fruit, and enters the stone in its soft state. During the latter part of this month and early in July, the plums commence falling, as the insect reaches its heart, and having attained its full size leaves the fruit for the ground, where it generally remains till the following Spring.

Preventions.—Commence as soon as the blossoms are off, going over the trees each morning, and with a mallet strike the tree two or three smart blows, having previously spread sheets underneath. The beetles, instead of flying away, roll themselves up if as dead, and drop upon the cloth, whence they are to be collected and burned. The insects are numerous, repeat this practice twice a day, following it up as long as they are found, which sometimes continues for several weeks. Care should be used not to start the bark of the trees in striking them. A woolen pad

fastened over one end of the mallet will prevent injury from this cause. With small trees a simple jar with the hand will often be sufficient. We have known crops saved upon trees planted near the dwelling by simply jarring them with the hand while passing to and from the house, without attempting to collect the insects. They are sluggish in their natures, and if disturbed two or three times a day will seldom do much mischief. Chicken yards are sometimes made of plum orchards, and fowls have been so trained as to follow one while shaking the trees, picking up the insects as they fall. All the fruit should be cooked or burned, as soon as it falls, to destroy the worms before they leave the plum. They are much more troublesome on light than on heavy soil, and on this account some have paved around their trees, and others spread a coating of mortar under the branches, to prevent the curculio from entering the ground. Dr. Underhill, of Croton Point, plants his plum trees leaning over water, and succeeds admirably. The natural instinct of the parent seems to prevent her from depositing her offspring where they are sure to meet destruction when falling from the tree.

Apple Worm, or Codling Moth, (*Carpocapsa pomonella*.) The Codling Moth is busy during this and the following month, flitting among apple and pear trees, and laying its eggs upon the skin, in the eye, or blossom end of the fruit. This moth is very common at night, often entering the open window and fluttering around the lamp or candle. Having described them somewhat minutely on page 254 of last volume, we will now briefly refer to the means employed for their present destruction. They, in common with most of the miller tribe, are nearly quiet by day, but active at night. As soon as apples and pears begin to set, kindle small bonfires in various parts of the orchard or fruit-yard, which will attract large numbers of these and other insects, and consume them in the blaze. Wide-mouthed bottles, filled with various mixtures, such as molasses, or honey and water, vinegar, water and molasses, honey and alcohol, &c., and hung in the branches of trees, will attract and destroy thousands of insects by stupefying and drowning them. The contents will need emptying and replenishing, as the bottles soon become filled. A mixture of two parts water, and one part vinegar, and one part molasses, is very good for this purpose. Fruit penetrated by this worm drops prematurely, and should be gathered and cooked before the insect has time to leave it. See what is said below respecting flambeaux for destroying the caterpillar.

The Caterpillar, (*Clisiocampa Americana*), is very destructive at this season upon the apple, pear, and cherry tree. The eggs have already hatched, and large nests of fine spun, silky threads woven together, contain broods of ravenous worms, which sally out in clear weather, and, if unmolested, often nearly strip the tree of its foliage, lessening or destroying the crop, and weakening the vigor of the tree itself. Thrifty and prudent cultivators have already rid their orchards of these pests by pulling or cutting off the nests as soon as discovered. To exterminate those remaining, tie a sponge to a pole, and dip it in a strong solution of whale oil soap, or spirits of ammonia, and slowly twist it into the nest, which will instantly kill all the caterpillars coming in contact with it. A round brush, made for the purpose, and fastened to a pole, may be used to entwine and bring down their nests. The above should be used early in the morning, before the worms have left their nests. Bonfires, as directed for the Codling Moth, should be built at night under the trees, the latter part of this month

and the first of July, to destroy the millers of the first brood before they deposit their eggs for a second crop. Flambeaux or torches, made by winding tow saturated with tar, upon a stake stuck in the ground, are the most effectual, as these burn for a long time. Thousands of millers will be destroyed by them during a single night.

Cherry Slug, (*Selandria Cerasi*.) This worm, found in large numbers during the latter part of June, both upon the cherry and pear tree, is described at length in another article; and the remedies given. An insect nearly allied to it, is found upon rose bushes, and the treatment of them should be similar to those upon the cherry. We recommend the mixture, for the discovery of which D. Haggerston, of Boston, received the premium of the Massachusetts Horticultural Society. This is whale oil soap mixed with water, in proportion of one pound of the former to two of the latter. Having thoroughly tested its application on our own grounds, we pronounce it a sure remedy. Where whale oil soap cannot be obtained, pour the dregs of oil casks upon common soft soap, and use in the same manner.

Bark Lice, (*Coccida*.) These cover the trunks and limbs of young apple and pear trees, and are frequently found upon currant bushes. They usually seize upon an unhealthy or weak growth, and, if not destroyed, often kill the tree or bush. They are readily recognized by their scaly appearance, often entirely covering the wood, and should be attended to by the middle of this month, at which time the young are in a tender state. The whale oil soap is a good mixture to destroy them, using a scrubbing brush or woollen rag to apply it. A wash of one part hard soap, and four parts water, adding lime enough to make a white-wash, forms a very good coating, applied with a brush till all the crevices are filled. As two crops of insects are hatched each season, the infected trees should be looked over again in the Fall, and the application repeated if necessary.

GRAPE CULTURE—NO. VI.

BY WILLIAM CHORLTON

OUT-DOOR CULTURE.

The vines in this department will now be in active progress, notwithstanding the very late Spring, and adverse weather. As the shoots elongate, nip out the tops to three or four leaves above the fruit-bunches, but allow those intended for next year's wood to extend themselves for the present, rubbing off all that are superfluous. Now is the time to save much after labor in Summer-pruning, and prevent injury to the fruit; therefore, do not leave more branches than are necessary to lay in, eighteen inches apart on the trellis, or furnish two or three for the stakes, according to the mode of training. A reference to former chapters and cuts will show what is here meant. Let these young shoots acquire some woody fibre at the base before tying-in, else they will be liable to break off; but do not delay the operation longer than necessary. Some persons use willow twigs and rye straw for this purpose; the former, however, is troublesome, and the latter very unsightly. Good Russian bass will always be found more convenient, much neater, and quite as economical. As soon as blossoming is past, and the best bunches can be selected, cut off all the superfluous and inferior ones. A healthy and vigorous cane may be allowed to bear one pound of grapes to each foot in length; but on those of weaker growth, the weight should be correspondingly less, if good quality is the object. Keep a sharp look-out for insects, as they sometimes do much mischief at this time. There are several kinds of beetles and caterpillars which eat the young

shoots, and likewise the stalks of the bunches. These should be destroyed by hand-picking early in the morning, when they are sluggish, and easily caught. There is also a species of *Aphis*, or small black fly, which congregates in great numbers on the young growth, and by sucking the juices, kill the tops of the shoots if they are not destroyed. Syringing with whale-oil soap dissolved in hot water, and afterwards diluted to the proportions of one pound of the former to thirty gallons of the latter, will be effectual; or, the next best substitute is common soap-suds, used in the same way. It is not best to apply these materials while the blossoms are expanding, but attack the insects by hand, before they become numerous. Loosen the soil with the hoe or plow, to destroy weeds, and allow the rains to penetrate. The cuttings which were put down in March will also be benefited by the same process, and if drouth should occur, a good soaking of water will make their success more certain, and prevent many from dying out. Now is a good time to propagate by layers. For this purpose, bury a branch of last year's growth, some four inches deep, leaving the young lateral shoots of the present season in a perpendicular position, having the tops above ground. Press down some hooked pegs to keep the branch in its place, and cover with earth. At the end of Summer, these upright branches will have an abundance of roots, and may be divided into as many individual plants.

COLD GRAPERY.

The vines in this house will, like those in the open air, be in active growth, and all means should be used to encourage their development. Syringe over the whole every evening, immediately before sundown, closing the house at the same time in clear weather, and do not open when cloudy; be careful, however, to ventilate when the sun's rays burst suddenly out. The great object is to maintain an even temperature, or rather a gradual, but slow rise until midday, a steady heat till evening, and a corresponding fall from that time until midnight. The thermometer may be allowed to ascend to 85° or 90°. The advice as to training, fertilizing, &c., given in former chapters for the forcing-house, will now apply to this, and need not be repeated.

FORCING-HOUSE.

The earliest crop will now be ripe, and the next beginning to color. Water overhead ought to be discontinued in the latter, and entirely withheld in the former. Keep the house well aired by opening both the top and front ventilators. Let the airing be more or less abundant, according to the weather, ventilating freely when clear and warm, and closing the house when stormy and cool. As much as possible maintain a free circulation; for, if the grapes become covered with condensed moisture, the flavor is very much deteriorated, besides being liable to rot. If wasps or flies become troublesome, hang up phials partially filled with molasses and honey mixed together, or some sugar dissolved in water, with the addition of a small portion of rum. Either of these mixtures will entice them to enter the vessel, and both will destroy; the first by its adhesive consistency, and the second by its stupefying effects, causing the insects to fall into it, where they are drowned.

THE RETARDING-HOUSE.

This house may now be closed in the evening, and kept cool during the day, which may be accomplished by lowering the top ventilators far down. Do not open the front windows at all when cloudy, and no further at any time than is actually necessary to reduce the heat to 75° at noon. When the weather is settled and dry, at

occasional syringing in the evening may be applied, but this must be done with caution, on account of the liability to mildew; for this crop is more commonly attacked than any other. This affection does not often appear until next month, and will be fully discussed at that time.

STRAWBERRIES—CHAPTER VI.

HINTS FOR THE SEASON.

If not already done, lose no time in taking out all weeds and grass; and, if the plants are, as is usually the case, spread over the whole surface of the bed, thin them out, removing the weakest plants, and those that do not indicate blossom buds. The fault of letting the plants stand too thick is almost universal, and consequently the fruit is not so plentiful nor so large and sweet. This is especially true in regard to the deservedly popular kind, Hovey's Seedling. Few are aware of the fine qualities of this berry, simply because the plants are left to grow so thickly that the fruit is not sufficiently exposed to the sun to ripen it thoroughly. It makes fifty per cent. difference in the quality of this kind, when well exposed to the influence of the sun. It is usually picked before it is perfectly ripe. It is true that fine-looking fruit may be obtained when the plants cover the ground and cast a deep shade, so that the fruit is entirely in the shadow of the leaves; but it will not have its otherwise rich and juicy quality imparted by light, heat and air. About the same remarks apply to other varieties.

When the plants are, as they ought to be, in rows, now is the time, if not already done, to mulch the ground that it may be moist, and the fruit remain clean. Recently-cut grass, spread over the surface, is very suitable for this purpose. If the plants are in thick beds, it may not be so necessary to mulch; but if the ground is sandy, it will be a protection to the fruit, in case of beating rains, to scatter over the beds some cut straw: this will sink through the leaves, and protect the fruit from the sand being thrown upon it.

While the fruit is forming, the strawberry needs a great deal of moisture; therefore, if the season be dry, water liberally from the cistern. Some liquid manure may be used, if the plants are not vigorous; but this must be applied carefully—not too strong, nor too frequently—lest it induce a growth of foliage at the expense of the fruit.

When the berries begin to turn whitish, or ripen off, less moisture is necessary, as too much spoils the flavor. If very dry weather at this time, some rain water may be given around the plants, but not on the fruit. A slight sprinkle of well-water in the evening, with the rose of a watering-pot, is of service, too, assisting the ripening, but not injuring the flavor.

The strawberry in perfection should be picked when the plants are dry, set for an hour or two in the cellar or in the ice-house to cool, and not sugared until about ten minutes before being served. Large berries ought to be cut in two, previous to being sugared; the delicious aroma is thus preserved, and a generally agreeable acid en-

sured. If the fruit should be sandy from recent rains, put it into baskets, and pour well-water gently over it: this should be done before the calyx or hull is taken off.

We have had Hovey's Seedling so large that thirty would fill a quart basket, and in such perfection, it was no hardship to hull them at the table; if the strawberry could be thus served, it can be eaten in greater perfection. A little care, as already described, will give such fruit instead of the little sour, pea-like masses that are so eagerly purchased in many city and village markets.

Plantations may be made this month with success, if plants are taken up with care, and some earth thrown among the roots, or some moist moss, to keep them from being injured by the air. If immediately transferred to well-prepared ground, watered, and covered slightly with grass or hay, they will re-root and grow. Plant in drills, two feet apart, and the plants nine to fifteen inches from each other.

New beds planted in April or May should now be kept clean. Use liquid manure freely (but not too strong). Urine diluted with water or soap-suds, forms an excellent manure for growing plants not in bearing.

TOMATOES.

Our own table during the past three months, and up to this time, would furnish the most convincing argument we could advance in favor of providing a good supply of this fruit—for such we call it. We have at this season, not only tomato figs equal to the best Smyrnas, preserves as good as could be desired, but nice fresh Simon-pure tomatoes, as good as when first picked—not to mention tomato mangoes and pickles. If our readers will look out now, and get a good supply of the fruit growing, at the proper season we will tell them how we keep them. We intend to store for next Winter and Spring use a good many bushels—at least enough to have a daily supply for seven months after the frost kills the vines in Autumn. In this latitude, tomatoes can be raised from seed sown as late as the first week in June. But those who have neglected to sow seed until this date, should get, from others, plants already started, if this is at all practicable. If not, better try to raise them from seed. They bear transplanting well—at least as well as cabbage plants. They will grow on almost any soil—better, of course, on a good one. They need about the same culture as potatoes. For fuller directions, see page 102 (May *Agriculturist*).

PLANT SWEET CORN.

If you have not tried this crop, do so this season, and you will never regret it. There are few crops which will furnish nicer food for Summer, Autumn and Winter use. It may be planted to the middle of July for drying green, though any time this month is better. There is a choice in varieties, but any variety is better than none, and you will be lucky to find seed enough of any kind this year. We have distributed forty odd thousand packages to our subscri-

bers this Spring, of the Darling and Stowell varieties, which we hope will all be saved for seed another year. We are sorry to hear of two instances in which the seed sent to subscribers has failed to come up. The fault must have been in the weather and too early planting. We are certain that all we have sent out, has not only been of pure quality, but also in good condition. We have tested samples to be sure that it would vegetate.

DIELYTRA SPECTABILIS.

Among the hardy plants recently introduced into this country, few claim so distinguished a place as this. It is truly a floral gem, and destined to be a universal favorite. Though a native of China, it is perfectly hardy in almost any latitude in this country. It was brought to England by Mr. Fortune, and when it first flowered, created a great sensation. It is an herbaceous plant, very much resembling the Peony in its manner of growth and general appearance, except the flower, and the more delicate texture of its foliage. It flowers early in the Spring, and continues in bloom over considerable time; sometimes it will throw out a second bloom. The flowers are borne on a drooping, graceful raceme, and are of a beautiful rosy pink color, and very abundant. They are singular, but remarkably graceful and elegant, resembling in form a lady's reticule.

Unlike many other beautiful plants, its culture is very simple. A good garden loam suits it well, but the addition of some leaf mold will be of advantage. The crown of the plant should be placed two or three inches beneath the surface; in the open border, the plant will need no further care, except to keep the ground mellow and free from weeds.

The Dielytra is propagated from cuttings, but more readily by division of the root, which may be done either in Spring or Autumn; we prefer Autumn, as the plant starts very early in the Spring, and grows rapidly.

The Dielytra is also admirably adapted to pot culture, and forces well. By a little management, it may be brought into bloom in February. The plants should be lifted from the border in the latter part of November, and placed in good-sized pots, in a compost made up of old, well-rotted manure, loam, and sufficient sand to make it porous. The crown of the plant should be only slightly covered. The pot must be well drained by placing potsherds or (broken earthen-ware) in the bottom. Place them in a cold frame, about the first of January, when they may be brought in at intervals. As the plant is a rapid grower, much of the success will depend upon bringing it forward quickly. In order to do this, place it in a warm part of the house, and water freely. By bringing forward a few pots at a time, a long succession of blooms may be kept up; and few plants will yield a better return for the labor. In the Spring, the plants may be turned into the border again. The tops will sometimes die off about mid-Summer, but they will break forth strongly again in the Spring. We prefer to see it grown singly in the border, or in pots for Winter bloom, rather than used for bedding. There are few plants which will give such general satisfaction as the Dielytra spectabilis, and we strongly recommend its culture. They may be obtained from any respectable grower of plants for about 37½ to 50 cents each.

MANURE ARTICLES.—Our articles on Manures are by no means closed, and will not be for some years yet (if we live). We are only waiting time and room to treat the subject thoroughly.



FLOWERS FOR FARMERS.

Flowers for farmers! What have they to do with such things? Of what use are they? They will not help me pay for that new ten-acre lot, nor to buy that new carriage and harness, nor to get that new sofa and carpet for the parlor. No, no: let the flowers go. Drive the plow, and hoe, and scythe; sharpen the axes, and let us cut down all the old forest trees in sight, which do nothing but shade the highway and the pastures, and had much better be turned into bank-bills. And those useless posy-bushes Sarah has got in the front yard had better be grubbed up, and currant-bushes set in their place, or some kind of vegetables grown there; something, at least, that will help to feed the family. Then, perhaps, we shall get on.

Please sir, not quite so fast. Possibly you have not thought enough about this matter on all sides. Let us take it up and air it a little. Brother farmer, what do you live for? What is the great object of your thoughts and labor? If it is not the highest and best of all objects, viz.: to be right, and to do right towards God and man—perhaps it is the next best thing, viz.: to be happy yourself, and to make others so. Well, does it make you really happy to deny yourself and your family rational enjoyments, to strip your house within and without of every luxury and ornament, in order that you may lay up a few more dollars and cents? If so, then hang up your harness in your wife's parlor, and turn your daughter's flower-beds into a kitchen-garden, and *enjoy yourself!* But if this can possibly make you happy, it will hardly be so with others. See your little children wandering about the premises, searching for flowers; they are never so happy as when they find a buttercup or violet. Should not that simple and natural taste be gratified? If they had a little garden of their own, where they might dig, and plant, and water, and indulge all sorts of childish fancies, would they not be happier, and would they not in after years have pleasanter recollections of their childhood's home, and fonder recollections of you? They *must* have amusements of some kind: would you not rather they should be innocent and healthful? You wish them to be happy and contented at home: should you not try to make their home attractive? Indulge in them such tastes as will make them happy there. Set them yourself an example in these things. Encircle the homestead with shade-trees planted by your and your sons' hands. Devote a small—we should like to say a *large*—space around the front

of your house to shrubbery and flowering plants, arranged by your wife's and daughters' tastes. And let these things come into your plans and your conversation every year, as things of real interest and value. You will, then, have no occasion to exhort your children to be happy at home. Their father's house will be their joy and pride. And whenever the time comes for them to go, one after another, to form new homes for themselves, they will leave you with fond regret, and their new homes will be patterned after the old.

Well, well, Mr. Editor, enough said: I must have such a home, whether I get rich or not. Now, please tell me just how to begin, for I have hardly thought of these things before.

We have already told you, in general terms; but to be more particular, take a few suggestions like these: Plant the roads leading to your house with double rows of forest-trees. The maple, ash, elm, bass-wood—what can be better? Set a few in groups here and there in your pasture lots: what finer sight from your door-step than your flocks lying at noon beneath their shade! Lay out a generous piece of ground on the front, and on one side of your house, for ornamental purposes, and surround it with a neat, low fence or hedge. Grade it smooth, and sow it with red-top grass seed and white clover—orchard grass and red clover are better, as you know, for the meadow. Cut out a few paths and cover them with gravel. On the outskirts of this lawn, plant a few fruit trees, but let those near the house be of the smaller and more ornamental kinds, such as the Mountain Ash, Larch, Horse-chestnut, European Linden. Intersperse a few evergreens, to make a cheerful scene in Winter; and for this purpose, what can be better than the Norway Spruce and the native Hemlock? Cut out a few flower-beds near the walks, and fill them with such plants as will give you a succession of flowers all the season. Do this thus: In some of the beds, set a variety of early-flowering bulbs, such as the Snow-drop and Crocus (blooming before the snow is quite gone), the Daffodil, Hyacinth, Narcissus, Tulip and the like, blooming one after another along into the Summer. When these begin to fade, sow annual flower-seeds, which will keep the same beds gay till Autumn. On other beds, set perennial plants, old-fashioned and new-fashioned, at least the old. Don't forget the charming native plants, such as the Spring Beauty, Liver Leaf, Crow-foot, Trailing Arbutus, and the like. Let the time-honored Pæonies have room here, and the Columbine, the Ragged Robin, Monk's Hood, Sweet William, Clove Pink, Larkspurs, Lily of the Valley, Violets, and others which old and young have always loved, and always will love. And then, if you choose, devote some space to Dahlias, Gladioli, Verbenas, and other "budding plants." Around your windows and doors, set climbing roses and honeysuckles.

When you have done these things, or *half* of them, you will have floral zeal enough, and floral love enough, to go on without

any more exhortation or instruction. When they are completed, you will find your home a thousand-fold pleasanter and happier. And neighbors and strangers, as they pass your premises, will stop and admire, and say: "There's a farmer who knows what's what; who is not a slave to mere money-making, but is enjoying life as he passes through it. He is a sensible man."

For the American Agriculturist.

KEEPING HOUSE IN THE COUNTRY.

It is generally supposed that there are two classes of people who keep house in the country, viz.: those who live there from choice, and like it; and those who live there from necessity, and don't like it. My experience has led me often among a third class, viz.: Those who live there from choice, and don't like it—a paradox truly—and oddly enough, they all give the same reason. Ask the estimable Mr. Jones, who bought, last year, the "country house with modern improvements, on a two acre lot, within an hour's ride of the city." We all remember how the family moved out, in a perfect ecstasy of rural enthusiasm. Ask him how he likes it now, and see if he don't answer, after due deliberation, "Why, it is just the thing for the children; fat as butter; they are tumbling in the sun and dirt, all day long; but my wife says she can't keep house in the country; she is just worried to death. I suppose we shall have to move back."

Whether he does or not, depends entirely on Mrs. Jones. If she has spirit and energy, and just a little spark of real love for the country, she will manage, through trial and trouble, to weather the first few years, and after that, though she may go on talking as usual about moving back to the city; at last her eyes will open to the fact that her cares have lessened, and her pleasures increased every day, until she can say with truth, that it is no more trouble to keep house in the country than in the city, and a great deal pleasanter. Let no farmer's wife, who cooks for fifteen field hands, lift her eyes in horror at this prophecy. I am not addressing you now, O, much-enduring woman; but Mrs. Jones, who, you would think, has neither work nor trouble, "with help in the kitchen, and nobody to cook for but her husband and children!" Mrs. Jones knows, and I know, that she has both, and if I can help her, I will, with all my "two years' experience," and something more, for I was to the country born.

But I must say, first of all, that I can't promise you much if you don't like the country. There are some people (Mr. T. S. Arthur is one of them, and writes a story every Spring to convince city people that they ought to stay at home all Summer) to whom "the country" is a word conjuring up visions of vulgar manners and deficient bathing apparatus, rancid butter and uncurtained windows; a place where the ceilings are always low, and the wash-pitchers have dead mice in them; where the days are made wretched by flies, and the nights terrible by beetles and screech-owls. We are very much obliged to you, Mr. Arthur, for the compliment to our house-keeping, as much as we were to Mr. Greeley for his condescending remarks on our cooking. My conscience! where could that man have visited? I never heard of such fare as he describes. Perhaps the unlucky family imported it at great expense from New-York, to do him honor; if so, what monstrous ingratitude!

But I am wandering from the subject. I meant only to say that if you have never felt any love

for the country; if March snow-drops and June roses, the budding green of April, and the scarlet glory of October offer you no compensation for the shop windows and the flutter of pearl fans at the opera; if the soft mosses in the grey old woods are not as welcome to your feet as the flags of Broadway; and you think an apple tree in blossom not to be compared to a milliner's opening; for any hope I can give you, you may as well move back to the city at once. Yet, No; perhaps time and the sweet influences of Nature may work a change in your tastes, and at least, for your children's sake, you will try to stay a little longer. Come then, and let us deal with your perplexities one by one; but this must be reserved for another article.

EMILY.
WINDHOLME, Pa., May 15, 1857.

From our Kentucky Correspondent.
CANDLE AND SOAP-MAKING.

To the Editor of the American Agriculturist:

As I have just made some of the nicest tallow candles I ever saw, I will give my recipe for the benefit of young housekeepers. I bleached and hardened 34 pounds of very soft and yellow tallow and one pound of black beeswax, by gently boiling the tallow out-door in the sun two days, in two gallons of weak lye, stirring and skimming it often. Each morning I cut out the tallow and scraped off the bottom that was soft, and put in fresh lye, for two days. The third day I put in fresh water, in which was dissolved one pound of alum, one of saltpetre and a little blueing. After simmering, stirring, skimming and straining it, it was as clear and white as sperm, and ready to dip.

I bleached my wick very white, and gently twisted it around small cane rods; allowing for one dozen candles to weigh two pounds, I put on wicks for fifteen dozen candles for the 34 pounds tallow. When the tallow was hot I put half an ounce oil of bergamot in, which perfumed it sweetly. I then dipped the candles in the usual way, making them rather shorter for Summer, but as large as mold candles. When done, the end of the wick should be dipped in turpentine to cause them to light quickly, and the candles are *ne plus ultra*. Talk of a perfumed breath, it is not more agreeable than a perfumed candle. (I think I deserve a patent for my invention, but I will give it to your readers gratis.) We dipped them in two hours, and did not have one drop of tallow on the floor! We had two or three pounds left—it is not well to dip too close. We dipped them twice over after cutting off the ends, and as the weather was cool we boxed them immediately, to keep them from cracking, putting paper between each layer. I am sure they will be half all Summer, and as good as the star candles.

SOAP MAKING.

In March I had two barrels of hard soap made in the following manner: Put strong ashes and a bushel of lime in a good hopper on staw; beat it down with a maul; put on water, and let the ashes rot a few days till it runs through strong. Then boil it down as you do sugar water for three days, or until there is a good deal of potash at the bottom; then boil your roughest grease, bones, skins, &c., in one kettle. If clear grease rises on top, skim it off and get out all the rough grease you can. Then, with a long fork, pick out the lumps and put them in the other kettle of lye and potash and that will eat them all up. Lather and try your soap, and if too strong put in the clear grease till it is of the right strength. If too weak add more potash. Stir an hour while the other kettle is being made, and you will have a barrel of good soap.

If you wish to refine some, melt it over in half a kettle of strong brine; stir till it boils; let it cool, and cut it off and dry in the sun. My soap maker firmly believes in the new moon.

"The aspect of the horoscope,
Is most favorable for making soap!"

GAPES IN CHICKENS.

The way they cure gapes in chickens in Kentucky, is to take the blue grass when it runs to seed, cut off the seed end, and put it down the windpipe of the chicken, and twist around a little, then jerk it out, and it generally brings the worms. It is said corn cake, baked in ashes, will prevent chickens having gapes.

Winchester, Ky.

MOLLIE BROOM.

RECIPES.

GINGER SNAPS—DOUGHNUTS—COOKIES.

To the Editor of the American Agriculturist:

The following recipes may be new and valuable to some of your readers.

To make *Ginger Snaps*.—Take one tablespoonful of ginger, one of lard, one teaspoonful of saleratus, half a pint of molasses, half a teacupful of water, with a sufficiency of flour. Knead soft, roll thin, and bake in a quick oven.

To make *Doughnuts*.—One pint of milk, one teacupful of shortening, two of sugar, one of yeast, three eggs, two teaspoonfuls of cinnamon, one of salt. Beat the eggs, sugar and spice well together, and stir in the other ingredients, with a sufficiency of flour. Fry in hot lard.

To make "*Cookies*."—One teacupful of butter, one of thick cream, two of sugar, one coffee-cupful of milk, one teaspoonful of soda, two of cream of tartar, and half a nutmeg grated fine, and flour to knead soft. Bake in a quick oven.

NEW-HAVEN, Conn.

ALICE.

For the American Agriculturist.

GOOD, PLAIN RECIPES.

Mr. L. W. Nichols, Jr., of Concord, sends us the following, with the assurance that they have all been most thoroughly tested by experience:

Excellent Plain Cake.—One cup of sweet milk; 1 of sugar; $\frac{1}{2}$ of molasses; $\frac{1}{2}$ of butter; 3 of flour; $\frac{1}{2}$ pound chopped raisins; 2 teaspoonfuls cream of tartar; 1 of soda; 1 of salt; 1 of cloves; 1 of cinnamon; 1 of nutmeg. Extract of lemon or rose-water, if desired. Mix the cream of Tartar thoroughly into the flour, and dissolve the soda in milk. Mix as usual. One-half lard can be used instead of all butter for shortening.

Superior Cake.—To the above ingredients, add 2 eggs well beaten, and 1 cup of English currants, and you will have an extra nice cake.

Sally Lunds.—One quart of flour, and 2 eggs; 1 pint of sweet milk; 2 tablespoonfuls of sugar; piece of butter, size of 2 eggs, rubbed into the flour, with a little salt, and 2 teaspoonfuls of cream of tartar; 1 teaspoonful of soda, dissolved in the milk. Bake in quick oven, in cups, in 20 minutes. Used to take the place of biscuit for tea.

Sponge Cake.—One cup of sugar; 1 teaspoonful cream of tartar; 1 cup of flour; $\frac{1}{2}$ teaspoonful of soda; 3 eggs, well beaten. The cream of tartar should be well mixed in the flour, and the flour stirred very gradually into the beaten eggs and sugar. The soda should be dissolved in 2 tablespoonfuls of milk or cream, and added just before putting into the oven.

Batter Pudding.—One quart of milk; 3 eggs; $\frac{1}{2}$ teaspoonful of soda; a little salt; mix to thin batter with flour (thinner than fritters). Bake in cups 20 minutes; eat with sweet sauce. It is equally as nice, and probably more convenient, to bake in a pudding-dish.

Bread and Butter Pudding.—A layer of quartered sour apples; a little nutmeg and sugar; a layer of dry bread buttered, (no matter how dry;) another layer of apples, with sugar and nutmeg as before; and so continue until you have filled your pan, the first and last layer being apples; add 1 cup of water, or sufficient to wet the bread. Bake 1 hour, in a moderate oven; eat without sauce.

Lemon Pie.—Take 3 good-sized lemons, squeeze the juice, and chop the peel, and mix with 2 cups of molasses, 1 cup of sugar, 2 eggs, and a little salt. Pastry, as for any pie. Cover the bottom crust with a moderate thickness of the prepared lemons; place over this a second crust; then place more of the prepared lemon, and cover with top crust.

Extra Nice Baked Apples.—Take sour apples—those of a keen acid—and to every square tin filled with them, pour over a teacupful of water, and a teacupful of sugar. Bake slowly till done. Eat with cream, and the juice that cooks from them. "his is, indeed, excellent.

MINCE PIES.

To the Editor of the American Agriculturist:

In looking over the *Agriculturist* for January I saw a substitute for apples in mince pies. I send you another method. Take one citron, pare and slice; take out the seed; boil in clear water till soft; pour off the water, and boil it in vinegar until sour, then add your meat and seasoning the same as if apples were used, and you will have a pie that no one will detect from a pie made with apples. My wife has made all her pies in that way this Winter, and all who have eaten them pronounce them excellent.

Rockton, Ill.

D. M. PETTIBONE.

FOR THE BOYS AND GIRLS.

[Our whole paper is, of course, designed for "young" as well as grown up people; the following is for the Boys and Girls only.]

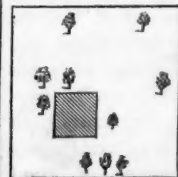
PROBLEMS FOR LAYING OUT GROUND.

Problem 1.—A gentleman has a square plot of ground in one corner of which is a house occupying just one-fourth of the lot.

In the house are four families, to whom the owner offers the use of the ground if they will divide it among themselves so that all the four plots shall be exactly alike in size and in shape or form, and each lot shall enclose one of the four apple trees standing in the position shown in the cut. Can they do it, and if so, how?



Problem 2.—Another gentleman has a lodging house situated in a square lot as shown in the cut.



In the house are five boarders, all of whom have asked the privilege of cultivating the ground around it. They also demand that all of the five plots shall be exactly alike in size and form, or shape, and

that each of the plots shall have two of the trees now growing. Being desirous not to offend his lodgers, the proprietor asks how he can make the desired divisions.

Answers wanted to the above in our next.

Which is the oldest, Miss Ann Tiquity, old Aunt Diluvian, Miss Ann Terrior, Miss Ann Cestor, Miss Ann T. Mundane, or Miss Ann T. Cedent?

An Albany editor thinks his property would have been carried away by the late flood, had it not been for the heavy mortgages upon it

(From our Foreign Correspondence.)

THE CULTURE OF RAPE.

MUNICH, BAVARIA, March-30, 1857.

To the Editor of the American Agriculturist:

While the New Sugar Cane and other new plants are attracting all the notice, I wish to call attention to another crop that can hardly be said to be yet introduced, for most of the experiments have been on a very small scale, and generally undertaken without a knowledge of the true value of the crop. I mean *Rape*. Judging from the few notices in the Agricultural papers, I infer that the people who are enquiring about it, think its principal value is in its feeding qualities.

I have interested myself in its cultivation, in Southern Germany, in Switzerland, and in Western France, where it constitutes one of the most important crops, but its use for feed is but secondary, that of its seed for oil being the principal. Rape, (*Brassica Napus L.*) is botanically closely allied to the common turnip, (*B. rapa L.*) and varieties of the latter are often cultivated under the same name, and for the same uses as the former. There are many varieties adapted to various conditions of soil, exposure and climate. For oil, the Winter varieties are considered the most profitable. The seed is sown in August or September, the plants bloom in April or May, and are harvested in June or July. There is nothing very peculiar in the cultivation, more than in that of Wheat. It is sown either in drills or broadcast, the former being preferred if the locality is such that a dressing with the hand hoe is desired in the Spring, which of course improves the crops.

The Spring varieties are sown in March, (the Spring is a little earlier here than in New-York, or New-England,) and the crop is harvested in September, when kept for seed. The chance for a good yield is considered less than with the Winter crops; it is more likely to be injured by an unfavorable season.

The oil is extracted precisely like that from linseed (flax seed). The "cake" is fed to cattle but it is superior to that from linseed. And the oil is chiefly used for burning. I have used it all the time I have been in Germany. It is clear, burns with a pure clear light and without smell. I think it fully equal to the best kinds of fish oil, and it is much cheaper. Hence I infer that its culture in America will be profitable; it is here raised on land much dearer than that of New-York, or New-England, and the oil is sold much cheaper than whale-oil there. I have seen it in Baden, raised on land worth over \$100 per acre, and the oil sold for less than whale-oil (at retail) in the city of New-York. The best oil sells here in Munich, for 11 to 14 cents per pound, (21 to 26 kreutzers per Bavarian pound,) and the crop is not raised in the immediate vicinity, so it is somewhat dearer.

If climatic causes do not interfere, I am sure that money can be made from the crop in America; I want to see it fairly tried. It grows here in the same climate and on the same soil that produces wheat, barley, oats, turnips, and similar grains.

These are the facts of the case. I leave practical men to demonstrate its adaptability to American soils and climates. * * * WM. H. BREWER.

REMARKS.—The above letter came to hand just as our last number went to press in which we published the closing portion referring to the *Dioscorea*.

In regard to the culture of Rape, we made some investigations last season, both with regard to the feasibility of growing it in this country, its value for oil, &c. We were

much pleased with the samples of oil and their burning properties. The opinion we then formed, was, that the high price of labor would for a time work against the general culture of Rape here, and we have waited for further information before recommending it. Mr. Brewer, speaks quite strongly in its favor, and we shall make an effort to get a supply of seed for our next *Annual Distribution*, for the purpose of giving an opportunity to test it in different parts of the country.

OUR BASKET

Into which are thrown all sorts of paragraphs—such as: NOTES and REPLIES to CORRESPONDENTS, with Useful or Interesting Extracts from their Letters, together with Gleanings of various kinds from various sources. The printers always have access to this Basket when they "have nothing else to do."

Late vs. Early Planting of Corn.—Our Waterloo Correspondent, S. W., says upon this topic:

"I have been in the habit for more than thirty consecutive years, of planting corn both early and late each year on adjoining plots; planting the first rows from the 4th to the 10th of May, as weather served; and never in a single instance when I saved my own seed, did it ever rot in the ground, even when delayed from sprouting by cold wet weather; the second plot is planted as soon the first plants are above ground; but the early planted although it may entirely stop growing and turn yellow or even get singed by frost, it is still gaining root and when warm weather comes, it goes ahead of the later planted, and if the days are hot and dry it will not only be a week earlier, but the ears will be fuller and larger and the stalks heavier. It is an old and in part true saying, that July and August makes the corn; but for the crop to luxuriate instead of suffering in the heat and drouth of these months, the stalks must be perfected and the ears formed before the drouth begins; hence the necessity of planting in May, so that the growing plants may have the benefit of the long days of June to prepare them to stand the later drouths. As August is a tropical month with shorter days and cooler nights, corn grows slowly after the middle of this month. Even in this corn growing country, last season in some localities corn was injured by frost on the night of the 30th of August, and the pumpkin vines were killed, and although we generally have no frosts along the Lakes and outlets until October. Corn scarcely grows at all after the 10th of September, it may glaze after that time, but no ear fills well in September. It is true that on wet undrained fields, corn planted in Summer may do better than that planted earlier on the same ill conditioned soil; but I never yet had hope large enough to induce me to work against such odds; and methinks the day is now at hand, thanks to the labors of the agricultural press, when no farmer worthy of the name will be found attempting to grow a cereal crop on a soil, that needs the sun of Summer to make it dry enough to plow and plant. There is no doubt but that in a favorable season corn planted any time in June may mature a crop; and before the middle of June, even a large crop. But as a general rule late planted corn is deficient both in size of stalk and fullness of ear, while that which ripens before the 20th of August, is a perfect specimen of both ears and stalk. In the colder climate of Minnesota it is said that even dent corn planted in early June, rarely fails to ripen a perfect crop; there the new vegetable soil gives a rapid growth that no old worn region can hope to obtain. The mechanical structure of such a soil enables it to hold water by absorption, or capillary attraction, to sustain the crop through the most trying drouth, without the curl of a leaf; but when this vegetable soil is worn down by use, Minnesota will have to substitute Canadian corn for the large dent corn of the farther South."

REMARKS.—We are not at all surprised, that our views of planting corn late, i. e. from the 25th of May to the 5th of June, should call forth this remonstrance. It contradicts the practice of a large majority of our readers, we presume, and yet we think that a closer observation will correct that practice, and bring them round to our own views. We think our correspondent's philosophy is wrong in several respects. He assumes that the early planted corn, while the tops are yellow and frost bitten, is all the while making roots. Of this we have no proof. A closer observation will show him that the leaves of plants, and the branches keep pace with the roots, and that the one is a complement of the other. A germ begins to grow in two ways at the same time, sending a radicle downward, and a leaflet upward. Destroy the radicle,

the leaf will die. Destroy the leaf, and the root will fail, as we often see in the case of frost bitten beans. Injure the top, in any way, by mutilation or by cold, and the root is injured to the same extent. If our correspondent has never had occasion to replant his early corn fields, his experience is different from that of most farmers.

His second idea, that early planting is a remedy for drouth, is equally fallacious. If, as we have seen, the roots and branches of a plant are the complements of each other, early and late planted corn would be in about the same condition by the middle of July. The roots would cover about the same surface, and run to about the same depth. Salvation from drouth depends upon the mechanical state of the soil, much more than upon the condition of the roots of the plants. In a deep plowed, well drained soil, moisture, both would pass through safely. In a shallow soil, both would suffer.

It is quite manifest that our correspondent wants a little closer observation to correct his philosophy. We should have more confidence in his conclusion if he had stated that his two pieces of corn had been measured. The eye and the half bushel do not always agree in their testimony. Let him take the King Phillip corn, or some other that will mature in ninety days, well adapted to his climate and plant a half acre the 25th of May, and let him treat the two pieces in all other respects just alike. An accurate measurement of the grain and the stover at harvest time will give us some thing reliable to form a true theory upon. Though our experience, and observation have led us and many of our neighbors to late planting as the better practice, we are still open to conviction.

Cut Worm.—W. D., of Middlegrove, N. Y., says: "These worms are the great enemies of the corn crop, many acres being destroyed last season. I observed that where the grass started up afresh the corn was not injured, and this pointed out a preventive. At the time of planting, scatter a small quantity of rye or oats over corn fields, which will afford a green crop for the worms, and save most if not all the crop from their ravages. The sowed crop will be easily dug up at the first hoeing, at which time the corn will be out of danger. A little extra labor in this way may secure a full crop of corn, where only half a crop would otherwise be produced without it."

Corn Smut.—"An Inquirer" asks how to prevent this. Mix two parts of water to one of tar, warming it; soak the corn in it an hour or two, and dry off with slacked lime. The lime will kill the smut, while the coating of tar will not only hold the lime, but also act as a stimulant or fertilizer.

Keeping Early Potatoes.—T. R. Joynes, jr., of Va., wishes to know, how these may be kept through the winter in his climate. The difficulty we suppose to be from the tendency of the potato to sprout before it is time to plant. The germinating powers of the potato may be retarded, by keeping them in a dark, cool, dry atmosphere. These conditions are furnished well enough in latitude in a common house cellar. We should suppose that they might be kept in the same way in Virginia. The cellar must be protected from frost, and must be dark, cool and dry. It is practicable to keep down the temperature by ice, where there are potatoes enough to be preserved to pay for the expense. The ice can be managed as in a fruit room. The Early June is a good early variety though hardly equal to some of the newer sorts. We shall be very glad to hear from our correspondent on the concentrated fertilizers.

Millet—Sowing Grass Seed.—In answer to inquiries of H. D. Jellison, of Muscatine County, Iowa, and W. H. Wetherbee, of Worcester County, Mass., we would say: Millet may be sown for soiling, or curing, at any time during May and June, on well pulverized, dry soil. A liberal coating of manure will materially benefit this crop. If sown broadcast, which is the common method, 40 quarts per acre is a fair seeding. It ripens its crop from 60 to 75 days from sowing, but if cured as hay it should be cut when the seed is in its dough state. It grows too rank to form a good crop for sowing grass seed with. We advise W. H. W. to plow his land after the millet is off, and then sow grass seed. The last report of Secretary Flint to the Massachusetts Board of Agriculture, contains much useful information on time of sowing grass seed. The majority of experience in that State, is in favor of Autumn sowing. This information is given in detail in the work on grasses, noticed in our May number.

Striped Bugs on Squash Vines.—R. P. Post, of Greene County, N. Y., says he has a remedy, or preventive, against the squash bug, which has not failed during the several years he has tried it. Equal parts of finely-powdered charcoal and sulphur, are put upon the young plants as soon as they come up. This is repeated as often as washed off by the rain. He also recommends every one who has a garden to save the soot and fine ashes from their stove-pipes and flues, to dust upon turnips, cabbages, and radishes, to preserve from the garden flies

Native Grapes.—Rev. David Mills, of Pa., has barren grape vines, and wants to know the cause, and what to do with them. The cause is probably that they are poor, worthless, wild grapes. We never yet saw a native, taken from the woods, that was worth cultivating. The remedy is to get Isabellas, Catawbas, Dianas, or the Concord, and plant in the place of these wild grapes. With these old vines, he will lose his time and labor.

Kohl Rabi.—To Charles Pulsifer, of Christian county, Ill. This is a turnip-rooted cabbage, or, more properly, a turnip growing out of ground, seemingly upon a cabbage stump. It is sometimes called German turnip. Sow and cultivate as ordinary turnips, cooking and serving in the same manner.

Martynia.—A Western correspondent asks what it is, when to plant, and for what purpose raised. There are several varieties, which, from the peculiar form of the seed-vessels, are sometimes called Unicorn or Proboscis plants. They are handsome annuals—usually assigned a place in the flower-garden, although one variety, in addition to a fine bloom, is often cultivated for its capsules, which make an excellent pickle when green. Sow on a warm border, in the early part of May. It may be planted on the first of June, however.

Manure Sprouts.—A subscriber in Janesville, Wis., who from the cold and backward season, suggests that we prepare for Winter, asks what he shall do with his sprouts, now growing in a hot bed. If Winter is really coming out there, he better leave them in the hot-bed; but appearances are fallacious, and Spring actually arrives with this number. Let him plant out his sprouts and treat them as cabbages until Autumn. Except at the South, or in sheltered situations, they should be taken up upon the approach of heavy frosts, set in trenches, and buried to their lower leaves, covering the heads with straw or evergreen brush. The small heads may be cut at any time during the Winter, and the old stumps set out in the Spring for another year. They will continue to grow for two or three years.

Bees Among Flowers.—J. G. H., of Brooklyn. Pour hot water upon their "nest mounds," and paths in which they have burrowed. If water would injure plants, dust black pepper, Scotch snuff, or guano, upon the surface, each of which is offensive to ants.

Lee on Rose Bushes.—The whale oil soap, referred to on another page, is a good specific. Our correspondent will find it better than "snuff."

Pear Tree Matting.—G. M. asks if the matting on tea chests will answer to protect the trunks of pear trees. It will. It is not necessary to bind the covering closely around the tree, the chief object being to protect the trunk from our hot Summer sun.

Flower Gardening Books.—F. A. Bowen of Wineago County, Ill., asks for the best works on the Flower Garden. Buist's "Flower Garden Directory," price \$1.25; and Breck's "Flower Garden," price \$1, are both good works. There is a small book, "Every Lady Her Own Flower Gardener," price 25 cents. Value, as compared with first-named, about proportional to the price.

The Osage Orange.—We have conflicting accounts of this plant for hedges. With some it does very well; with others it is pronounced worthless. A recent letter from the West speaks of a large portion of those planted in the vicinity as failures.

PREPARING AND SOWING THE SEED.—A correspondent sends us the following: "Perhaps as good a way, and by many preferred, particularly at the North, is to procure the seed in the Fall, and mix with moist sand, put them in the coldest place you have, as on the north side of a house, where they will freeze thoroughly during the Winter, and plant in the Spring. If the seed be procured in the Spring, the planting may be deferred until the ground becomes warm. In the latitude of New-England any time during the month of May will answer. In order to have the seed vegetate quickly, it should be put to soak in soft warm water, and allowed to remain three, four, or five days, (even ten days,) or until they are very much swollen, and the germ begins to appear. Keep the water constantly warm by allowing the vessel to stand in a warm place covered with a cloth, and change the water daily to avoid fermentation; mix with a little dry earth or sand when you get ready to plant. The ground for the nursery should be a rich sandy loam, deeply plowed and finely pulverized. If you have none such, supply the deficiency by hauling sand or wood mold on to the best and richest spot of land you have, and mix thoroughly with the soil. Proceed to lay it out in drills 18 inches apart, and drop the seeds at intervals of one half inch in the row; cover with fine earth a few inches deep. Be sure to pat well the ground above, so as to press the earth tightly around the seed."

Deep Plowing.—J. J. R., of Louisville, Ky. Good hints,—received too late for discussion in this number.

King Philip Corn Wanted.—A. Fowler, of Farnumville, Mass., inquires where a half bushel can be purchased. We know of none for sale. If any one has it to part with, it should be advertised immediately, in the daily and weekly papers, stating prices, &c., as a great number of persons wish it in quantity, for late planting, and for replanting. It will be rather late to wait until our July number, though we will gladly depart from our usual custom, and announce, without charge, the names of any persons having any to part with. The older varieties may yet be planted, however.

Prairie Fences.—M. Joslyn, of Cedar county, Iowa, makes several important inquiries on this topic, which we must take time to consider. We shall have an eye to this, the present season, as we intend spending considerable time on our great Mississippi Valley farm, embracing Ohio, Indiana, Illinois, and the other Western States.

Potato Planting.—E. T. says, put them on the top of the ground, and cover with leaves, and they will not rot. Where shall we get leaves for a ten acre field?

Potatoes—More Wanted.—So says D. P. of New-Jersey, and so say we. We paid \$2 a bushel for some fair table potatoes, last week. At such prices, they would pay, if two-thirds of the crop rotted.

A Chance for Drain Tile Makers.—Mr. Joshua Meek, of Greenfield, Hancock county, Ind., some time since wrote, desiring particular information in regard to making drain tile; and that a person understanding their manufacture, would find an excellent opening there. We have not yet been able to find any one to meet the want. If this note does not call a reply from some practical man, we advise the farmers of Greenfield to encourage an experienced brick maker to visit Albany, Waterloo and Geneva, N. Y., and study the modes there pursued in tile making.

The Chess Question.—An avalanche of questions, notes, opinions and dissertations have been received. We were tired of the question, years ago. Our doctrine and belief is, that chess will produce chess, and that nothing else will. The seed will lie dormant in the ground for years, and when the conditions are all right, it will spring up abundantly—ten to one, just where you least expected it.

Teeswater Sheep.—"Earnest Farmer" will not find these equal to the Southdown, Cotswold or Leicester. The old Teeswater are nearly extinct, or at least superseded by the varieties above named. There is a cross between the Teeswater and Leicester, which rivals the old Teeswater both in carcass and fleece, but not, in our opinion, equal to the Southdown.

Spaying Cows with Sulphuric Acid.—A. P. L., of South Carolina. We know nothing of the practice you refer to. We should as soon think of "injecting" a rifle ball, to render a cow barren, as sulphuric acid. We confess ignorance in this matter of using acid.

Canal Sediments.—To A. M. Gibson, of Steuben County, N. Y. All such substances as the vegetable matter in bottoms of canals, ditches, &c., are highly valuable as fertilizers, and should be under the surface of cultivated fields, where they will cease to produce malaria and the resulting diseases, as they are sure to do if left to decay upon the banks or surface of the ground. On moderately light or sandy soils, they will need no previous preparation. On cold, heavy, wet soils, an after application of lime or ashes will be highly beneficial.

Sand for Manure.—"A Connecticut Plow-boy" recommends sand as preferable to muck for an absorbent in horse and cow stables. This cannot be so; but where muck cannot be had, sand may be used to advantage, especially if it can afterwards be applied to stiff or clayey soils. Dry clay loam is a good absorbent for stables, if to be used on sandy soils.

Green-house Books.—M. Kane, of Westchester county, N. Y., inquires for a good work on the treatment of green-house plants. Buist's "American Flower Garden Directory" is an excellent work on this subject. Price \$1.25. For a technical or scientific treatise, see notice, in this number, of Leuchar's Book.

Osage Orange at the West.—Mr. F. Colby, of Racine, inquires the fate of this plant in Central Illinois and Iowa, after the past severe winter. We shall soon start on an extensive tour of examination over our large Western farm tillied by more than 12,000 practical men, and report upon this and other things. In the meantime let us hear from a multitude of correspondents on this point, also respecting the Wheat and Corn prospects.

Transporting Bees.—J. H., of Cayuga County, N. Y., does not see any necessity for inverting the hive when moving bees, as recommended in the May number. If they are only removed from one stand to another there is no necessity for this precaution, but when sent to a distance, it is far safer to invert them so that the comb

may rest firmly upon, instead of suspending from the attached portions. It will be less liable to break off Spring wagons only should be used, jarring the hives as little as possible.

Pounds in a Bushel.—"A Farmer" writes respecting the "unreliability of the Register of Rural Affairs and Cultivator Almanac for 1857," and quotes, as an illustration, the table of pounds in a bushel, given on page 387. The table is certainly very defective. "Farmer" will find on page 127 of this number, a table of the true weights, which happened to be stereotyped before the reception of his note.

Mock Turtle Soup.—Rev. E. N. Nichols, of Michigan, asks a recipe for this article. We give him the following, from one, who in our opinion stands high among the cooks. Take a calf's head, a very cheap institution at this season of the year, and divide the upper from the lower half. Put both in a gallon of water and boil till tender. Strain the liquor, and let it stand till the next day, and then take off the fat. Three quarters of an hour before serving it, hang it over the fire and season it with pepper, salt, mace and sweet herbs tied up in a small bag, (the basil comes in here,) add half a pint of rich gravy, darken it with fried sugar, or brown flour; add the juice of two lemons, the yolk of eight eggs, boiled hard, forced meat balls. Just before taking up, pour in half a pint of wine. Please do not invite the Aldermen when you have this for dinner. Leave out the wine and you may invite Temperance men.

Sweet Corn for Coffee.—A. P., writes: "Sweet corn roasted and ground makes a pleasant coffee, and if well prepared and mixed with half, or a third of common coffee, can scarcely be distinguished from that made wholly of coffee."

Hot bed covering—a substitute for Glass.—D. P., of South Norwalk, Conn., recommends: "Make a frame with cross bars two feet apart and cover it with cotton cloth, painted with a composition made as follows: One quart whitewash, one pint linseed oil, whites of three eggs. This is much cheaper than glass and it prevents the danger of scalding the plants in a hot day. The forcing is less rapid, but the plants grow more hardy and are more likely to live."

Vegetable Nutrition, Tull, &c.—We have a long article on this subject too long for insertion. Had the thoughts been expressed in a fourth of the words, and written on only one side of the paper, we could have given it earlier attention. These remarks apply to sundry other articles received, but not thoroughly examined.

Cheap Bean Poles.—Mr. E. H. Avery, of Belvidere, writes (too late for our last): "The following may be useful on prairies and in villages where bean poles are not easily obtained. I sow early a bed of sunflower seeds, and at the time of weeding, I transplant a thrifty sunflower stalk to each hill of beans. The sunflower grows rapidly and soon produces a thrifty stalk around which the bean will entwine itself. Care should be taken to place an abundance of fertilizing materials to support both the plants; and also to remove the flower from the stalk."

REMARK.—Two years since a correspondent wrote us that he tried this plan, but the sunflower grew so fast that it drew the beans up by the roots.

Keeping House in the Country.—This communication from "Emily" on another page is an excellent one. Read it. We can find room for many more from the same facile pen.

Mapes & Gibbs' Rotary Digger.—We have on hand a report of the Beach Island Farmers Club, handling this implement "without gloves." We intended to comply with the request to publish it, but it would crowd over articles on more important topics. We are opposed also to giving the implement the "notoriety" of even a discussion of its merits or demerits. Mr. J. J. Mapes keeps a journal to advertise his own manures and implements. If people buy them on the strength of what they read in the "Working Farmer," and get into difficulty with Mr. Mapes, they must "take their chickens home to roost."

"Wife Wanted."—Under this head, "One Interested" writes to us, or rather to "mothers," a long chapter on the deficiencies of the present system of female education, to most of which we subscribe; but if "One Interested" waits till his lecture, or all we could say on the topic, shall put matters right, and educate the helpmeet he is looking for, he will become an old bachelor, we fear. Better look on the bright side of the picture, as it is. Do not indulge in thoughts about the "worthlessness" of the mass of young ladies. There are plenty of unmarried, good girls in the country, as "bad as things are;" and if himself worthy, one possessing your discernment, cannot long go unmated. We'll be happy to drop in after you get things fixed on your nice farm—we wish you all success, but it is out of our line to take any part in the preliminary arrangements.

NOTES UPON VALUABLE BOOKS.

[The country is now being flooded with books on Agriculture and Horticulture, Fruit Growing, Treatment of Animals, &c., some of them good, some bad, and some indifferent. We purpose, as we may have time and space, to set forth what we consider the claims of some of those most worthy of being procured and read. Many of this class of books we do not esteem deserving a notice even and shall pass them by, except to criticize those coming before the community with pretentious claims, but in themselves of objectionable. As we have before intimated, we held ourselves under no obligations to advertise any book by a "notice" because the publisher sends us a copy free. What we say in praise or blame of any work is wholly with reference to the interest of our own readers.]

Purchasing Books.—Book selling is no part of our business, and we would prefer to have all our readers get such works as they desire directly from the publishers, or from a regular book-seller. But many are remote from book stores, and are cautious about sending money to unknown publishers. To accommodate such, we will at any time be happy to procure any desired book, especially on any subject treated of in the *Agriculturist*. As a general thing we can send any book by mail *post-paid* on receipt of the regular retail price—the discount allowed us by publishers being just about enough to cover the cost of mailing.]

Let the Children Study Chemistry.

Were we asked to arrange the order of "studies" to be pursued by a boy or girl at school, we should answer, *practical* Grammar, Arithmetic and Geography, in connection with a thorough drilling in reading and writing, and next *CHEMISTRY* followed by History, &c. Without stopping to discuss the philosophy of this order we would briefly say that we look upon a knowledge of chemistry, in its relation to the objects and occurrences of every day life, as of the highest practical importance. There is scarcely an operation going on around us in the natural world which is not the result of some chemical law. Rain, ice, heat and cold, and the growth of all plants are results of chemical laws and changes, and to the study of these, we would direct the first attention of the child. Building fires; cooking, washing, soil culture, &c., are chemical operations, and we would early teach the principles involved, and the interesting changes and exchanges taking place among the atoms of the materials we handle, not only as a matter of immediate interest, but also with a view to the practical advantages resulting from a knowledge of the *why* and *how*. It has been customary to take the child at once from the elementary branches to the study of the abstruse principles of what is usually termed "Natural Philosophy," embracing Mechanics, Hydraulics, Hydrostatics, Electricity, Astronomy, &c. Now while these are important and should occupy a due portion of the advanced student's attention, we would begin by directing him, or her, to the simpler and more practical teachings afforded by chemistry. To illustrate, we would show the child what takes place when vinegar and saleratus are united, or when a mass of wood or coal is put into the stove and *apparently* consumed; how a beautiful and variegated plant or flower comes up from the ground; how from eating bread alone, is produced bones, nails, hair, blood, flesh, skin, nerves, &c.; how soda or saleratus added to sour milk, produces sweet, light biscuits, and a thousand other similar things that almost every day's experience presents to observation. The study of them is easy—not half so difficult as the law of falling bodies, the compound lever, the theories of light and electricity, the motions of heavenly bodies, &c., which are among the things discussed in the most elementary school "Natural Philosophy."

One hindrance to the introduction of the study of chemistry in our public schools, and in the family has been the lack of suitable books on the subject. Books without number have been written, but we have met with no one which seemed to be just adapted to the popular want. Children's chemistries has been either a "baby talk," or the cramped attempts of sturdy intellect to gambol in childish sports. A suitable book would, in our opinion, be one which should commence with the simplest principles, and develop these by illustrations drawn from objects and chemical changes immediately under the observation of every one. The work should begin with a description of simple, cheap experiments to be performed by the scholar with apparatus every where at hand. To illustrate; instead of a homily upon simple and compound bodies, we would mix before him or instruct him to mix the ingredients of a cake, for example, and show how the flour, sugar, soda, milk, butter, &c., in themselves so different from each other, when united, form a homogenous mass so entirely unlike any one of the original elementary substances entering into the compound. (We of course speak of these as elementary in a relative sense only.) To inculcate the idea of a gas, we would fill a glass vessel with clear vinegar, put a piece of

chalk or soda in the bottom, and turn over it a glass tumbler filled with water or vinegar, and point to the bubbles of gas rising into the tumbler. So every principle of synthesis and analyses (composition and decomposition) might be illustrated. There is scarcely a kitchen that does not contain apparatus enough to exhibit the primary principles of chemistry. We did not commence, however, to write a treatise on chemistry, but call attention to what kind of a book is wanted to adapt this important and useful branch of knowledge to the wants of the masses. We were led to this topic by an examination of a work on chemistry just published by A. S. BARNES & Co., of this city, from the pen of Prof. JOHN A. PORTER, of Yale College.* Though in many respects not quite the kind of book we have indicated above, it comes, perhaps, the nearest to it of any we have yet examined. A marked valuable feature is the simplicity of the apparatus employed or recommended for showing some of the more important principles of chemistry. A few earthen bowls, glass tumblers, common clay smoking pipes, bits of metal, and cheap substances obtainable at any country drug-store, have a prominent place in the experiments illustrated in the book. For a school book to be studied with the living teacher, it is very good. Though most of the principles of the science are stated in plain language there is rather too much brevity, and too great an aim at completeness, to fully adapt it to the comprehension of smaller children, and to the uneducated "children of larger growth," whom we would enlist in the study of this interesting and useful science. For a systematic work, the preliminary hundred pages devoted to light, heat, magnetism and electricity, are very well, but for an elementary work we would commence with the elements, composition and decomposition of bodies, and at first only introduce so much upon heat, light, &c., as might come in naturally to explain phenomena. But with these suggestions we still commend the work as eminently worthy of general introduction, not only as a text book in public schools, but also as a text-book and reading book in the family.

* 470 pages. Retail Price \$1.

A PRACTICAL TREATISE ON THE HIVE AND HONEY-BEE, by L. L. LANGSTROTH, with an introduction by Rev. ROBERT BAIRD, D. D. Second edition, enlarged and illustrated with numerous engravings. Published by C. M. SAXTON & Co., New-York, 1857. Price \$1 50; or \$1 60 if prepaid by mail.

The experience of any one engaged in bee-culture for fifteen or twenty years, is worth giving to the public; and especial value is to be attached to the observations and discoveries of such a man as Mr. Langstroth, who has made the instincts and habits of bees a matter of thorough and systematic study. The second edition of his treatise on bees has received our careful attention, and we gladly recommend it as superior to anything hitherto published. It is not a mere re-issue from stereotype plates, but each chapter bears marks of revision, and much new valuable matter has been added. Those who have the first edition will need this also. As a *manual of bee-culture* it is indeed liable to the objection of being too diffuse, and too full of remarks on other subjects. It would bear considerable pruning, and this process would both increase the value and diminish the cost of what remained. There is also a little want of harmony between the parts, as if the book had been a long time in passing through the press. But while we are free to say this, we rely upon the work as a most complete repository of facts, old and new; and one who has never seen it will be surprised to find what progress has been made in this department of natural history within a few years. No owner of half a dozen stocks of bees can afford to be without this volume. This is not the place for discussing the details of Mr. Langstroth's system of management, of which we will only say that its adoption will remove many embarrassments that have stood in the way of bee-culture; and while we are not sanguine in respect to all the results hinted at, we think it bids fair to supersede other systems.

An interesting chapter on a species of the honey-bee found in Italy and carried thence to Germany, will be entirely new to most persons. We shall have more to say of this Italian bee at some other time. It has been identified as one of the species described by Aristotle, 2,300 years ago, and supposed to have become extinct. The earliest account of it in modern times referred to by Mr. Langstroth, is found in a German periodical of 1848. We are surprised however, that it should have escaped his notice that *fifty years ago*, Spinola, in describing the insect of Liguria, mentioned this very species as different from the common bee, distinguishing it from others described by Reaumur, Della Rocca and Latreille, and claiming that it was the very one known to Aristotle. He said the ancients spoke of it as "more gentle than the common bee, swifter in its movements, far more unwearyed with labor, and securing more honey." These statements correspond with the representations that now come to us from Germany; and we sincerely hope that success will attend the effort to introduce this invaluable bee into the United States. When this has once been done, it will be easy to multiply them indefinitely by Mr. Langstroth's methods of forming artificial colonies.

NIAGARA TO QUEBEC.—J. P. Jewett & Co., have published a pretty and convenient *Panoramic Guide* from Niagara to Quebec, which will be particularly interesting to those traveling over that route, either on a pleasure or business excursion. It contains descriptions and illustrations of the scenery on the route, besides a folding panorama opening out to near 12 feet in length, upon which is a connected picture of Niagara Falls and River, Lake Ontario, the St. Lawrence River, &c., with numerous illustrations of the objects of interest to be seen by the voyager. Price \$1.

DEVON HERD-BOOK.—The third volume of this book is in course of preparation by Sanford Howard, of Boston, and will probably be ready for delivery in July.

The Special Premiums for New Subscribers

offered in our May Number, are still continued. See page 117. They are worth looking to, particularly if you chance to want a supply of seed to sow for soiling, or green manure feed.

Sugar-Cane Seed for Soiling at a Low Price.

As stated in a note on page 128, we shall have a small surplus of this seed, at the close of our free distribution, which is now about over for the season. This we shall be glad to have our subscribers try for soiling purposes. We have planted it in hills and drills, on a variety of soil, and with various fertilizers. We have just had a plot sown broadcast, at the rate of 10 pounds of seed to the acre, to see how it would grow in this manner. It will be cut at different stages of maturity and fed out, and the results noted. We shall be pleased to have our subscribers, who are so disposed, use our surplus of a hundred pounds or so, which we had provided to be sure of enough to meet all calls from our subscribers. To those who will try it for cattle feed, we will furnish what we have after June 1st, and in such quantities as they may desire, and at whatever price they may choose to pay towards its original cost, or, to avoid too great a demand, we will say at 50 cents a pound. As stated on page 128, it can be sown in drills, for soiling, at any time in June. We will put it up in bags holding a pound or more, as may be desired, and forward it by express or otherwise. The applications will be filled, *as fast as received*, until our supply is exhausted. Any money received afterwards will be returned at once to the subscribers.

This seed is of the best quality, and we are confident that, at least, none better has been offered in the country than both what we now have, and the 1,400 pounds we have scattered among our subscribers.

Crop Prospects—Our last item.

For several days we have had a great number of gloomy reports from various parts of the country. To-day (May 22), as we go to press, a large Western mail brings a batch of letters of an entirely different tone.

The sun now shines clear and warm, and Spring seems to have returned.

Business Notices.

Forty Cents a Line.

RATS, ROACHES, BED BUGS, INSECTS, &c.

The *London Quarterly Review*,
The *New-York Daily State Register* and others, on
"COSTAR'S" Rat, Roach, &c., EXTERMINATOR,
"COSTAR'S" Bed bug EXTERMINATOR,
"COSTAR'S" ELECTRIC POWDER, for Ants, &c.
The *London Quarterly Review* contains near a column, and the *New-York Daily State Register*, of May the 1st says: "No judicious housekeeper should defer purchasing a supply of these invaluable remedies for clearing their houses of all sorts of vermin. With all confidence we can recommend them as indispensable articles for every family."

The *New-York Journal* for April has the following:
"COSTAR'S" Remedies for all domestic pests, such as Rats, Cock Roaches, Bed Bugs, Ants, Fleas, &c., are said to be invaluable; indeed, we can speak from actual knowledge of their rare merits. The name of 'Costar' is a 'household word' to New-Yorkers and his Depot, No. 388 Broadway, New-York, is thronged by thousands daily. As the Summer approaches we advise every one who would be rid of the above named pests to send and procure a timely supply of the Exterminator. Druggists and DEALERS also should send their orders early, if they would secure a trade in articles for which there is a constant demand, and on which a fair profit may be realized."

"COSTAR'S"

Principal Depot, No. 388 Broadway, New-York, and sold by DRUGGISTS and DEALERS everywhere in the United States, Canada, West Indies and South America.

See Advertisement. Full particulars by mail.

What is "Imphee?"

This question has been asked by a great number of our correspondents. In reply, we would say that Mr. Leonard Wray recently brought into this country several varieties of seed which he calls "African Imphee," and which he claims is superior to the Chinese Sugar-Cane, or Sorghum. He positively declined parting with the smallest quantity of it, even for experiments, as he proposed to retain a monopoly of the seed to be grown here. He is now cultivating it in South Carolina, we believe. A friend of ours obtained a quantity of it in France, and is now cultivating several acres. We have procured a little for a test experiment. Mr. Wray also brought over with him some 1,500 pounds of the Chinese Sugar Cane, or Sorghum, which he sold to a party in this city, and made out a bill for it as "Chinese Imphee," as we are informed, and this led it to be advertised under that name, (Chinese Imphee.) We are not aware why Mr. Wray gave it this name. He plainly stated to us that our Sorghum Seed was the same as his own sold here, and that ours was raised by himself and Count de Beauregard, at Toulon, France.

Mr. Wray claims that the African Imphee grows more rapidly than the Chinese Sorghum, and that it is in other respects superior. This is yet to be proved, and also, if like the Sorghum or Chinese Sugar-Cane, it is adapted to our northern climate.

Michigan State Agricultural College.

This institution was dedicated on the 13th inst., under the Presidency of Mr. Williams. In connection with it is a farm of 700 acres, three miles east of Lansing. The tuition is free, and the students will be required to work three hours a day, and be paid for their labor. There are accommodations for 80 students. It is the first State Institution established on the Continent. Its first endowment was \$56,000, the proceeds of Salt Spring Lands, originally donated by the General Government to the Territory of Michigan. The sum of \$20,000 per annum for the next two years has been nobly appropriated by the enterprising State of Michigan to this object.

Trials of Implements.

An Exhibition of Implements, including Mowers, Reapers, Clover and Grass Seed Harvesters, Hay Rakes, Jedding or Spreading Machines, Hay and Cotton Presses, Hay Pitching Machines, Grain Cradles, Hand Rakes and Forks, Grass and Grain Scythes, and Scythes Snaths, will be held at Syracuse, N. Y., during the early part of July, under the auspices of the United States Agricultural Society. The exact time of the trial will depend upon the forwardness of the crops to be operated upon, of which due notice will be given to each exhibitor. Full particulars may be obtained by addressing Hon. M. P. Wilder, President, Boston; Ben. Perley Poore, Secretary, Newburyport, Mass.; or J. E. Holmes, Newark, Ohio, who will be the Superintendent of the Implement Trial.

There will also be an Extensive Trial of the above Implements, at Chestertown, Maryland, in the latter part of June, under the auspices of the State Society. For particulars, address S. Sands, Secretary, Baltimore.

The OHIO STATE BOARD OF AGRICULTURE will hold a large trial of MOWERS and REAPERS, at Hamilton, Butler county, commencing Wednesday, July 1st. For particulars, address John H. Klippart, Corresponding Secretary, Columbus, Ohio.

Shall We Use so Much Small Type?

An aged correspondent thinks we are introducing "too much small type." It "troubles his eyes." We sympathize with him and others, and have fought against the innovation for a long time. But though a bushel of chaff may be crowded into a peck measure, we cannot do this with plump, sound wheat. The fact is, we abbreviate ("boil down," as editors say,) all the articles, cutting out a line here and another there, leaving out introductions and perorations from communications, and from many editorial articles, but still cannot find room for half we wish to introduce into each number. We have thought of enlarging, though adding two pages would cost us \$500 a year for the printing paper alone, and any addition to the present size would double the postage to each subscriber. Still, if our subscription list continues to increase as heretofore, we shall make each number one third larger, say on and after October or November next, and then we can do away with a portion of the "small type." In the meantime we must put several pages of even valuable articles in type like this, (Nonpareil,) as we can thus stow away twice as much reading matter; and we trust our aged readers will brush up their "spectacles," choose a good light to read by, and look to the amount and quality rather than the dress it appears in.

FARM FOR SALE.—We take pleasure in referring to the extensive farm offered in our advertising columns by S. T. Taber. It is perhaps enough to call special attention to it by saying that the location is on Chestnut Ridge, in Dutchess County, N. Y.

Back Volumes.

We have now spare copies of Volumes XII., XIII. and XIV. only. Price unbound, \$1 per volume, or \$1 25 if prepaid by mail. Price, bound, \$1 50 per volume, not mailable.

With a single exception, the actual regular circulation of the *Agriculturist* to subscribers is about **Fifteen Thousand greater** than that of any other Journal in the World devoted to Agriculture and Horticulture only.

Advertisements.

TERMS—(invariably cash before insertion):

Twenty-five cents per line (of ten words) for each insertion. By the column or half column, \$30 per column for the first insertion, and \$25 for each subsequent insertion. Business Notices Forty cents a line. Advertisements to be sure of insertion must be received at latest by the 20th of the preceding month.

EVERY MAN HIS OWN ARCHITECT.

The way

To Build a Country House

is to get

RICHS' AMERICAN ARCHITECT.

Price \$6.

Published by C. M. SAXTON & CO.,

No. 140 Fulton-st., New-York.

RURAL ARCHITECTURE. By L. F. Allen. Embracing Out Buildings as well as Cottages and Farm Houses. Price \$1 25. At SAXTON'S, No. 140 Fulton-st.

LAY OUT YOUR GROUNDS BY DOWNING'S LANDSCAPE GARDENING. Price \$3 50. Published by C. M. SAXTON & CO., No. 140 Fulton-st., N. Y.

POULTRY—LOOK OUT FOR YOUR CHICKENS; and the best way to do that is to read

THE AMERICAN POULTRY YARD.

Price \$1.

Published by SAXTON & CO., 140 Fulton-st., N. Y.

PUT UP GOOD GREEN-HOUSES THIS SUMMER,

And get ready for Winter.

LEUCHAR'S HOW TO BUILD.

Gives full directions. Price \$1 25. To be found at SAXTON & CO.'S, No. 140 Fulton-st., New-York.

☞ Sent free of Postage on receipt of price.

"GET THE BEST."

WEBSTER'S QUARTO DICTIONARY—UNABRIDGED.

SOLD BY ALL BOOKSELLERS.

"ALL YOUNG PERSONS SHOULD have a Standard DICTIONARY at their elbows; and while you are about it, get the best; that Dictionary is Noah WEBSTER'S, the great work, unabridged. If you are too poor, save the amount from off your back, to put into your head."—*Ph. Journal.*

WEBSTER'S QUARTO DICTIONARY.—Everybody knows about Webster's Dictionary, and every man, woman and child, ought to have access to it.

"It will tell you everything in regard to your mother tongue which you want to know. It shows you the words in all their aspects—giving you a sort of history of each individual that is in any way worthy of attention."

"Every Farmer should give his sons two or three square rods of ground, well prepared, with the avails of which they may buy it. Every mechanic should put a receiving box in some conspicuous place in the house, to catch the stray pennies, for the like purpose."

"Lay it upon your table by the side of the Bible—it is a better expounder than many which claim to be expounders."—*Mass. Life Boat.*

Published by G. & C. MERRIAM,

Springfield, Mass.

To Persons out of Employment.

WANTED—IN EVERY COUNTY IN

the United States, active, industrious and enterprising men, as Agents for the sale, by subscription, of valuable and interesting Books; all of them being expressly adapted to the wants of every family, and containing nothing of a pernicious or injurious tendency. Our Publications are among the best in the country, and good Agents can realize a profit from \$2 to \$3 per day by engaging in the business. A small capital of only \$20 to \$30 is required. For further particulars, address

ROBERT SEARS, Publisher,

No. 181 William-street, New-York.

AGENTS WANTED.—EXCELLENT

BUSINESS OPENING.—Wanted a few energetic, industrious Men, to SELL AGRICULTURAL BOOKS among the Farmers. Very favorable terms will be given. With proper attention, more than \$100 per month clear profit above all expenses can be realized. A rare chance to make money without risk. For particulars, apply immediately to C. M. SAXTON & CO., Agricultural Book Publishers, No. 140 Fulton-st., N. Y.

CHINESE SUGAR-CANE SEED,

75 Cents per Pound.

The subscriber has a few hundred pounds of the best Chinese Sugar-Cane Seed (called also "Chinese Imphee," "Sorgho," &c.), which will be sold during the remainder of the season, in small or large quantities, to suit purchasers, at seventy-five cents a pound.

☞ This seed was grown by Leonard Wray, Esq.

R. L. ALLEN, 189 Water-street, New-York.

THE SHORT-HORN BULL GOVER-

NOR, for sale at a bargain. He is one of the best bred Bulls in the country, good size, fine form, &c. For pedigree, see (541) American Herd Book, Vol. 2d, page 153.

J. F. SHEAFE,

New-Hamberg, Dutchess Co., N. Y.

RUSSIA OR BASS MATS, GUNNY

BAGS, TWINES, &c., suitable for Nursery purposes, for sale in lots to suit, by

D. W. MANWARING, Importer,

246 Front-street, New-York.

C. S. WAINWRIGHT'S
FIRST PUBLIC SALE OF THOROUGHBRED
NORTH DEVON CATTLE,

TO BE HELD AT "THE MEADOWS," ON THE 17TH DAY OF
JUNE, 1857.

THE SUBSCRIBER INTENDS HOLD-

ing his first Public Auction of North Devon Cattle, on the above-mentioned day, at his residence, "The Meadows," four miles north of Rhinebeck Station, on the Hudson River Railroad, New-York. The animals to be sold will number between twenty and twenty-five head, males and females, from calves to full-grown, all of which have been either bred or imported by himself, and have perfect Herd-Book Pedigrees.

Catalogues, containing full Pedigrees, and all necessary information, will be ready on the 15th of April, and will be forwarded to all desiring it. The subscriber will be happy to have gentlemen visit his herd at any time.

All sales will be bona fide, and no animal on the Catalogue will be sold until the auction.

C. S. WAINWRIGHT,

"The Meadows," near Rhinebeck, N. Y.

PERUVIAN GUANO,

In large or small quantities

R. L. ALLEN, 189 Water-street, New-York.

Beware of adulterated or damp GUANO, and of all other Fertilizers that can be mixed or depreciated without detection. The demand for Artificial and Commercial Fertilizers is now so large in the United States, that it is becoming a great object to adulterate them. This has been done to so large an extent in England, as to have called for the most stringent measures for the exposure of rascality and the protection of farmers.

No. 1 PERUVIAN GUANO.
SUPERPHOSPHATE OF LIME, BONE
DUST, POUDRETTE, &c. For sale by
GRIFFIN BROTHER & CO.,
60 Courtlandt-st., New-York.

PERUVIAN GUANO—THE BEST

quality of Peruvian Guano, with Government weight and brand on each bag, by the cargo, or in smaller quantities, at the lowest price to be had in this market.

SUPERPHOSPHATE OF LIME.

Being agent for the most extensive manufacturers, I can supply a first rate article, at the lowest manufacturers' prices.

BONE DUST, coarse and fine ground, also sawings and filings.

POUDRETTE and TAFEU by the barrel.

PLASTER, &c. &c. &c.

This warehouse is the largest depot in the United States for the various kinds of Fertilizers, all of which are guaranteed of the most reliable quality.

Agricultural and Horticultural Implements, Field and Garden Seeds, a large assortment of all the improved kinds.

R. L. ALLEN, 189 Water-st., New-York.



SIX REASONS WHY EVERYBODY USES

LYON'S KATHAIRON.

1st. It is the CHEAPEST preparation for the hair ever made.

2d. It is pronounced by all to be the MOST BENEFICIAL.

3d. It is the most AGREEABLE to use.

4th. It is the CLEANEST and most CAREFULLY PREPARED

5th. It is the most HIGHLY PERFUMED.

6th. It is the only article that never fails to give ENTIRE SATISFACTION.

The immense sale of the KATHAIRON—nearly 1,000,000 bottles per year—attest its excellence and universal popularity.

Sold by all dealers, everywhere, for 25 cents per bottle.

HEATH, WYNKOOP & CO.,

Proprietors and Perfumers,

63 Liberty-street, New-York.



"COSTAR'S" RAT EXTERMINATOR.

An infallible destroyer of RATS, MICE, ANTS, GROUND MICE, MOLES, &c. &c. (Not dangerous to the Human Family.) Rats do not die in their holes, but come out and die.

Put up in 20c., 35c., 65c., \$1, \$2, \$3, and \$5 Boxes.

"COSTAR'S" BED BUG EXTERMINATOR.

Never known to fail—and used every day by thousands in New-York and elsewhere.

Put up in 25c., 50c., 75c., \$1, \$1 50, \$2 50, and \$4 50 Bottles.

"COSTAR'S" ELECTRIC POWDER.

For the destruction of MOTHS, MUSQUITOES, FLIES, FLEAS, PLANT INSECTS, VERMIN ON FOWLS AND ANIMALS, &c. &c.

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Sold Wholesale and Retail at "COSTAR'S" PRINCIPAL DEPOT, 388 BROADWAY, NEW-YORK, and by the principal DRUGGISTS and DEALERS throughout the United States, the

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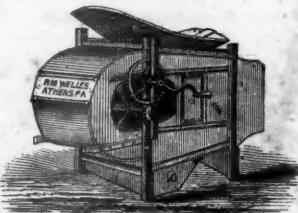
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Address "COSTAR," No. 388 Broadway, New-York.

ALLEN'S IMPROVED MOWER, AND MOWER AND REAPER—the best in America. A large assortment of the most approved Agricultural and Horticultural implements, of good quality and at low prices, For sale by R. L. ALLEN, 189 and 191 Water-st., New-York.



THE IMPROVED PREMIUM EXCEL- SIOR FANNING MILL.—This is the best, handsomest, and cheapest Fanning-Mill known, and is warranted to be second to no other made in the United States, for durability, simplicity, rapidity in doing work, or for any of the purposes for which a good Fan-Mill is designed.

Manufactured only by us at the TIOGA POINT AGRICULTURAL
WORKS. Price \$25. A very liberal discount made to dealers,
who are invited to order a sample Mill.

R. M. WELLES & BROOKS,
Athens, Bradford Co., Pa.

Agents for New-York city:
GRIFFING BROTHER & CO., 60 Courtland-st.



New-York State Tile Works.

On the Western Plank Road, near the Orphan Asylum,
Albany, N. Y.

The subscriber having purchased the Drain Tile Works of
Archer & Co., offers for sale the following-sized Tile:

Horse Shoe Tile cut 14 inches long			Sole Tile cut 14 inches long—		
Pieces.			Pieces.		
2 1/2	in. calibre.....	\$12 per 1,000	2	in. calibre.....	\$12 per 1,000
3	"	15 "	3	"	18 "
4	"	18 "	4	"	40 "
5	"	40 "	5	"	60 "
6 1/2	"	60 "	6	"	80 "
8	"	80 "			

I warrant every Tile perfectly sound, and harder and better
Tile than any before made in Albany. If not, the purchaser need
not pay for them. I will also undertake Draining to any amount,
and at any place, and furnish Tile for the same, and ask no pay
until the employer is perfectly satisfied with the result. I am
also willing to render my services in laying out Drains free of
charge, to any one who purchases Tile of me.

A liberal per centage will be allowed on orders for 10,000 or
more. Cartage free. Gentlemen, your patronage is respect-
fully solicited. Orders from all parts thankfully received, and
promptly attended to.

GEORGE ALDERSON, Albany, N. Y.
Office, 63 Quay-street.
(Late ARTHUR & CO.)

THERMOMETERS, BAROMETERS, &c. of reliable quality and various descriptions, among which are those particularly suited for Horticultural purposes, which register the coldest and warmest degree of temperature during the 24 hours, in the absence of the observer. For sale by

D. EGGERT & SON, 239 Pearl-st.

REBECCA GRAPE VINES

FOR SALE.

TO BE READY FOR DELIVERY BY the 15th of May, good strong Plants in pots, propagated from the original vine. Price \$3 each.

Those wishing to obtain this new and valuable Native White
Grape, will do well to forward their orders at an early date.

WILLIAM BROCKBANK,
Prospect Hill Nursery (near Hudson),
Columbia Co., N. Y.

LAWTON

BLACKBERRY PLANTS.

The Subscribers announce to their friends and customers that
they have now

OVER SIX ACRES

of the
GENUINE LAWTON

BLACKBERRY PLANTS

under cultivation, and in good condition.

They are therefore prepared to fill large orders the coming
FALL and the following SPRING.

PRICES.

\$18	per	Hundred plants.
\$10	per	Fifty plants.
\$5	per	Twenty-five plants.
\$3	per	Dozen plants.

N. B. All plants ordered of us will be TAKEN up
and PACKED with the GREATEST CARE; and
UNDER OUR OWN PERSONAL SUPERVISION.

Of the MANY THOUSANDS

sent out by us last year we have heard very few instances of
failure notwithstanding that they have been forwarded to

EVERY PART OF THE COUNTRY.

and the setting out has often been entrusted to unskilled hands.
Printed directions for setting and cultivating are sent with
every package.

GEORGE SEYMOUR & CO.,
South Norwalk, Conn.

Grazing Lands for Sale.

FOUR HUNDRED ACRES OF THE

finest grazing lands in the State of New-York, situated on
Chestnut Ridge, within three miles of the Railroad Station at
Dover Plains, Dutchess County, and within eighty miles of the
city of New-York, are now offered for sale upon easy terms, and
at a moderate price. The location is unsurpassed for salubrity
of climate, facility of access to market, fertility of soil, and ex-
cellent water. The entire tract is susceptible of the highest
degree of cultivation. About forty-five acres of the finest Chest-
nut, Oak and Hickory timber.

The improvements on the premises consist of a spacious two-
story frame Dwelling, Barn, Carriage-house, Stable, Tool-house,
Work-shop, Granary, Poultry house and Yard; Boiling-house,
Cider-mill, Wood-mill, Ice-house, and extensive
Sheds and Stabling for Cattle.

There is on the premises an abundance of Fruit of every de-
scription. About 1,000 Apple trees, 250 bearing Pear trees, with
Cherry, Plum, and the smaller fruits sufficient for family use.

Further information can be obtained from D. B. HAIGHT,
Esq., Dover Plains, Dutchess Co., N. Y.; R. L. ALLEN, 189
Water-street, New-York; or by application to

SAMUEL T. TABER,
Hempstead Branch, Queens Co., N. Y.

FARM FOR SALE,

IN BUCKINGHAM COUNTY, VIRGINIA.

THE UNDERSIGNED, WISHING TO

close his Farming operations in Buckingham County, Vir-
ginia, offers for sale, upon reasonable terms, or in exchange for
city property, two valuable tracts of land, being within six miles
of Buckingham Court House, and adjoining the Moseley & Gar-
rett Gold Mines. One of said tracts contains about 230 acres,
and known by the name of "Owen's Mills"—having about 100
acres at present in cultivation, with a growing crop of wheat,
corn and oats, with half an acre of ground planted with vegeta-
bles, containing, in part, potatoes, beans, peas, onions, lettuce,
&c., and enclosed with new fencing. There is on the place a
small dwelling-house, and all necessary out-houses, such as sta-
bles, &c., with stock of horses, cattle and hogs; farming uten-
sils, &c.; also a steam saw and grist mill, with engine of 35
horse power, and sufficient timber for the support of the place, if
purchased separate. The other tract lies within one-fourth of
a mile of the one first mentioned, and contains 216 acres, is en-
tirely covered with timber, but well adapted to cultivation, the
soil being of excellent quality. These lands are in a remarkably
healthy section of the State, with an abundance of the best
water, and being situated very near the Gold Mines, there is al-
ways a ready sale for produce of all kinds. The above lands I
will sell low, for a part cash, and a long credit on the balance,
or will exchange the whole for property in the city of Washing-
ton. The growing crop, stock, &c., I will sell in connection with
the land, or separate, for cash, or on a short credit. Possession
can be had immediately.

Address E. OWEN (now upon the premises), at Buckingham
Court House, Virginia; or E. OWEN & SON, No. 212 Pennsylv-
ania avenue, Washington.

FIELD AND GARDEN SEEDS.

A FULL ASSORTMENT OF THE

choicest Foreign and Domestic Field and Garden Seeds,
raised expressly for my trade. All genuine and of the best
kind. For sale wholesale and retail.

SORGHUM, SACHARATUM, or CHINESE SUGAR-
CANE, both of foreign and home growth, put up in dollar pack-
ages, with printed directions for planting. Also, by the pound
or in larger quantities.

KING PHILIP BROWN CORN.

WYANDOTT CORN.

LARGE SOUTHERN CORN.

WHITE AND YELLOW FLINT CORN.

DARLING'S EXTRA EARLY SWEET CORN.

EARLY TUSCARORA CORN.

EVERGREEN, DUTTON, POP and other varieties.

POLAND AND OTHER CHOICE SEED OATS.—The best
in market.

SPRING BARLEY.—Extra choice quality.

SPRING RYE.

SPRING WHEAT—Fife, Tea, Golden Drop, Canada Club
and Black Sea.

POTATOES—Prince Albert, very superior. Dikeman. Early
June. Ash Leaf Kidney, Mercer, and other choice varieties.

SPRING AND WINTER VETCHES, BROOM CORN,
PEAS of every choice variety. BEANS ditto.

GRASS SEEDS.—Timothy, Red Top, Ray, Orchard, Blue
Sweet Scented Vernal, Foul Meadow, &c.

CLOVER.—Large and Medium Red, Dutch White, Lucern
or Alfalfa, Alsike, Crimson, Sainfoin, Sweet Scented.

MILLET.—Extra clean for sowing.

FLOWER SEED AND HERBS.—All new and valuable varie-
ties.

RED AND YELLOW ONION SETS.—Top or Button On-
ions, Potato Onions.

APPLE PEAR AND QUINCE SEEDS, PEACH PITS, &c.

OSAGE ORANGE.—Yellow and Honey Locust, Buckhorn,
MUSHROOM SPAWN TOBACCO SEED.—Havana, Vir-
ginia, and large Connecticut Leaf—all choice varieties.

BIRD SEED.—Canary, Hemp, Rape, Maw and Rough Rice.

GRAFTING WAX, WHALE SOAP, GUANO and SUPER-
PHOSPHATE OF LIME, in small packages of 25 cents each.

FORCING GLASSES, SYRINGES, and a full assortment
of HORTICULTURAL IMPLEMENTS, VINE and FLOW-
ER SCISSORS, GRASS and HEDGE SHEARS, &c., &c.

STRAWBERRY, CURRANT, and RASPBERRY SEED.—
Lawton Blackberry, Red Antwerp, Fastoff and Franconia Rasp-
berry, Hovey's, and other choice Strawberries, Cranberry, Pie,
Plant or Rhubarb, Asparagus, Osage Orange, and other plants,
Fruit Trees and Shrubs of all kinds, in the best condition,
furnished to order.

Catalogues furnished on application.

BOOKS.—A choice variety of standard works on Horticul-
ture, Agriculture, trees, drainage, &c., &c.

R. L. ALLEN, 189 Water-st., New-York.

FIELD AND GARDEN SEEDS, AGRI- CULTURAL and HORTICULTURAL IMPLEMENTS of the most approved patterns.

Farmers will find it to their advantage to call and see our
LITTLE AMERICAN MOWER AND REAPER.

It weighs only 450 pounds, light draft, no side draft, and war-
ranted to give satisfaction. Sold at the low price of \$100 as a
Mower; \$120 as Mower and Reaper.

GRIFFING BROTHER & CO.,
60 Courtland-st., New-York.

GENUINE MOHAR OR HUNGARIAN

MILLET SEED.—A new and fine variety, very hardy,
resisting extreme drouth, and yielding a large quantity of the
choicest forage, at the Agricultural Warehouse and Seed-Store.
R. L. ALLEN, 189 and 191 Water-st.

WILLARD FELT, No. 14 Maiden-lane,

Manufacturer of Blank Books, and Importer and Dealer
in PAPER and STATIONERY of every description. Particu-
lar attention paid to orders.

CHOICE FARM LANDS FOR SALE.

THE ILLINOIS CENTRAL RAILROAD COMPANY

IS NOW PREPARED TO SELL ABOUT

1,500,000 ACRES OF CHOICE

FARMING LANDS,

IN TRACTS OF FORTY ACRES AND UPWARDS,

ON LONG CREDITS, AND AT LOW RATES OF INTEREST.

THESE LANDS WERE GRANTED BY

the Government to aid the construction of this Road, and
are among the richest and most fertile in the world. They ex-
tend from Northeast and Northwest, through the middle of the
State, to the extreme South, and include every variety of climate
and productions found between those parallels of latitude. The
Northern portion is chiefly prairie, interspersed with fine groves,
and in the Middle and Southern sections timber predominates,
alternating with beautiful prairies and openings.

The climate is more healthy, mild and equable, than any
other part of the country; the air is pure and bracing, while liv-
ing streams and springs of excellent water abound.

Bituminous Coal is extensively mined, and supplies a cheap
and desirable fuel, being furnished at many points at \$2 to
\$4 per ton, and wood can be had at the same rate per cord.

Building Stone of excellent quality also abounds, which can
be procured for little more than the expense of transportation.

The great fertility of these lands, which are a black rich mold
from two to five feet deep, and gently rolling—their contiguity to
this road, by which every facility is furnished for travel and
transportation to the principal markets North, South, East,
West, and the economy with which they can be cultivated, ren-
der them the most valuable investment that can be found, and
present the most favorable opportunity for persons of industri-
ous habits and small means to acquire a comfortable independ-
ence in a few years.

Chicago is now the greatest grain market in the world, and
the facility and economy with which the products of these
lands can be transported to that market, make them much more
profitable at the prices asked than those more remote at Govern-
ment rates, as the additional cost of transportation is a perpetual
tax on the latter, which must be borne by the producer in the
reduced price he receives for his grain, &c.

The Title is Perfect, and when the final payments are made,
Deeds are executed by the Trustees appointed by the State, and
in whom the title is vested to the purchasers, which convey to
them absolute titles in Fee Simple, free and clear of every in-
cumbance, lien or mortgage.

The prices are from \$6 to \$30.

INTEREST ONLY 3 PER CENT.

20 per cent. deducted from the Credit price for Cash.

Those who purchase on long credit give notes payable in 2, 3,
4, 5 and 6 years after date, and are required to improve one-tenth
annually for five years, so as to have one-half the land under
cultivation at the end of that time.

Competent Surveyors will accompany those who wish to ex-
amine these lands, free of charge, and aid them in making selec-
tions.

The lands remaining unsold are as rich and valuable as those
which have been disposed of.

SECTIONAL MAPS

Will be sent to any one who will inclose fifty cents in Postage
Stamps, and Books or Pamphlets, containing numerous in-
stances of successful farming, signed by respectable and well-
known farmers living in the neighborhood of the Railroad lands
throughout the State; also the cost of fencing, price of cattle,
expense of harvesting, threshing, etc., or any other informa-
tion, will be cheerfully given on application, either personally
or by letter, in English, French or German, addressed to

JOHN WILSON,

Land Commissioner of the Illinois Central Railroad Co.
Office in Illinois Central Railroad Depot, Chicago, Illinois.

DOCTOR HOOFLAND'S

CELEBRATED

GERMAN BITTERS.

PREPARED BY

Dr. C. M. JACKSON, Philad'a, Pa.

WILL EFFECTUALLY CURE

LIVER COMPLAINT, DYSPPEPSIA, JAUNDICE,

CHRONIC OR NERVOUS DEBILITY,

DISEASES OF THE KIDNEYS,

AND ALL DISEASES

ARISING FROM

A DISOR-

DERED

LIVER

OR

STOMACH.

Such as Constipation, Inward Piles, Fullness or Blood to the
Head, Acidity of the Stomach, Nausea, Heartburn, Disgrat
for Food, Fullness or Weight in the Stomach, Sour Eruc-
tations, Sinking or Fluttering at the Pit of the Stomach,
Swimming of the Head, Hurried and Difficult Breathing,
Fluttering at the Heart, Choking or Suffocating Sensations
when in a lying posture, Dimness of Vision, Dots of Webs
before the Sight, Fever, and Dull Pain in the Head, Defi-
ciency of Perspiration, Yellowness of the Skin and Eyes,
Pain in the Side, Back, Chest, Limbs, &c., Sudden Flushes
of Heat, Burning in the Flesh, Constant Imaginations of Evil,
and Great Depression of Spirits.

The Proprietor, in calling the attention of the public to this
preparation, does so with a feeling of the utmost confidence in
its virtues and adaptation to the diseases for which it is recom-
mended.

It is no new and untried article, but one that has stood the
test of a ten years' trial before the American people, and its
reputation and sale is unrivalled by any similar preparations
extant. The testimony in its favor, given by the most prominent
and well-known physicians and individuals in all parts of the
country, is immense, and a careful perusal of the Almanac, pub-
lished annually by the Proprietor, and to be had gratis of any of
his Agents, cannot but satisfy the most skeptical that this
remedy is really deserving the great celebrity it has obtained.

Principal Office and Manufactory, No. 36 ARCH-street, Phila-
delphia, Pa. And for sale by all Druggists and Store-keepers
in every town and village in the United States and Canada.

MARKET REVIEW, WEATHER NOTES, &c.

AMERICAN AGRICULTURIST OFFICE,
New-York, May 22, 1857.

The Produce Markets have generally been brisker, during the past month, the opening of inland navigation contributed to the activity. The reports of much reduced supplies, of Breadstuffs, and of the poor appearance of the growing crops, has also served to stimulate business. These reports have been used to influence our market, so as to benefit speculators alone, the true state of the stock of Produce in the country, and the real condition of the growing crops, are not near as bad as interested parties have represented, speculators, however, have diligently labored to spread the gloomiest predictions; and for a while they succeeded in deceiving both producers and consumers. They had previously secured large quantities of produce, and they calculated that they could rule the markets. But in developing this project, they miscalculated the extent of their means, and when pressed for money, they have been obliged to surrender to the potent influence of the legitimate laws of supply and demand. The effort to create a famine panic proved abortive.—and though prices of the leading kinds of flour and grain have advanced considerably during the month, they closed heavily and languidly—buyers having at this date any existing advantage. The home demand is now the main reliance of factors; speculation has partially ceased, and the export movement is insignificant. Cotton is slowly improving in demand and value. Provisions are in good request, and the leading articles are quoted higher. Butter and cheese being the only commodities that are cheaper. Groceries are generally brisker and dearer, with reduced supplies available. Hay is less abundant, and is in lively request at decidedly better prices. Hemp, Hops and Grass Seeds are quiet and rather languid. Tallow is saleable and steady. Tobacco is in poor supply and fair demand at full rates. Wool rules quite dull and heavy, though the available stock is not large. The very limited inquiry for all descriptions disheartens owners. These are desirous to sell, but they can not find buyers unless at prices which they are not disposed to accept. Quotations are wholly nominal. Other commodities are moderately inquired for at about former prices.

As we go to press—business on the Corn Exchange, especially in Indian corn, is seriously impeded by the disagreement of dealers about the number of pounds of corn which should now constitute a bushel. It has been customary to allow 56 lbs. to the bushel, and sellers generally refuse to exceed this allowance. An act passed during the recent session of the State Legislature, however, decreed that 56 lbs. of corn should constitute a bushel, and most buyers contend for this amount. So far no reconciliation of opinion has been effected on the subject, and the protraction of the dispute serves only to obstruct business.

We annex a comparative list of the closing prices of the principal agricultural products, last month and this, showing the fluctuations since our previous issue:

	April 24.	May 22.
Flour—Common to Extra State	\$5 65 @ 6 15	\$6 45 @ 6 75
Common to Fancy Western	5 70 @ 5 85	6 35 @ 6 70
Extra Western	5 85 @ 5 95	6 70 @ 6 90
Fancy to Extra Genesee	6 20 @ 6 30	7 20 @ 7 75
Mixed to Extra Southern	6 45 @ 6 75	7 20 @ 9 50
Rye Flour—Fine and Super	3 50 @ 4 65	3 65 @ 5 00
CORN MEAL—Canada White	3 25 @ 3 65	3 65 @ 4 15
WHEAT—Canada White	1 25 @ 1 65	1 75 @ 1 90
Western White	1 50 @ 1 85	1 70 @ 1 90
Southern White	1 54 @ 1 67½	1 70 @ 1 90
All kinds of Red	1 30 @ 1 50	1 40 @ 1 67½
CORN—Mixed	71½ @ 73	85 @ 90
Yellow	73 @ 75	90 @ 92
White	73 @ 75	88 @ 92
Oats—State and Western	56 @ 60	56 @ 63
Jersey	54 @ 56	54 @ 58
Southern	32½ @ 35	31 @ 35
R	36 @ 39	1 02 @ 1 04
BARLEY	1 45 @ 1 65	1 40 @ 1 60
White Hums	1 75 @ 1 87½	1 81½ @ 1 93½
Black eyed Peas, per 2 bush.	3 75 @ 3 87½	3 50 @ 3 75
COTTON—Middlings, per lb.	15 @ 15½	13½ @ 14½
Fair	4 50 @ 5 50	4 25 @ 5 25
Rich, per 100 lbs.	6 @ 11	7 @ 11
Hops, per lb.	22 50 @ 22 70	23 50 @ 23 60
Prime, per bbl.	19 25 @ 19 80	19 15 @ 19 25
BEES—Country Meas.	13 00 @ 14 00	13 50 @ 14 50
Prime	10 75 @ 11 50	10 75 @ 11 75
Hogs, Dressed, per lb.	9 @ 9½	8½ @ 9½
Lard, in bbls, per lb.	13½ @ 14	14½ @ 14½
BUTTER—Western, per lb.	15 @ 21	18 @ 24
State, per lb.	18 @ 22	20 @ 26
CHEESE, per lb.	12 @ 13½	11 @ 12
POTATOES—Cattaraugus, per bbl.	3 50 @ 4 50	3 50 @ 5 00
Mercers, per bbl.	2 75 @ 3 50	3 50 @ 4 00
ONIONS—Reds, per bbl.	3 50 @ 3 75	3 75 @ 4 00
White, per bbl.	4 50 @ 5 00	5 00 @ 5 00
APPLES, per bbl.	3 00 @ 6 00	4 00 @ 8 00
EGGS, fresh, per dozen	15½ @ 16	16½ @ 16½
FEATHERS, Live Geese per lb.	50 @ 56	50 @ 56
SEED—Clover, per lb.	11½ @ 12½	11 @ 12
Timothy, mowed, per bushel.	3 00 @ 3 25	3 25 @ 3 50
Timothy, reaped, per bushel.	3 25 @ 4 00	3 75 @ 4 00
SUGAR, Brown, per lb.	8½ @ 11½	9½ @ 12½
MOLASSES, New-Orleans, per gal.	75 @ 76	75 @ 75
COFFEE, Ric, per lb.	10 @ 12	9½ @ 11½
TOBACCO—Kentucky, Ric, per lb.	13 @ 22	10½ @ 21
Seed Leaf, per lb.	11½ @ 45	11½ @ 45
WOOL—Domestic, per lb.	38 @ 60	35 @ 60
Domestic, pulled, per lb.	32½ @ 50	32 @ 50
HEMP—Undr'd Amer'n per ton	180 00 @ 200 00	170 00 @ 200 00
Dressed American, per ton	235 00 @ 250 00	240 00 @ 255 00
HAY per 100 lbs.	70 @ 11½	1 00 @ 1 12½
TALLOW, per lb.	11 @ 11½	11 @ 11½
WHISKY, Domestic, per gal.	28 @ 33	33 @ 34
OIL CAKE, per ton	35 00 @ 36 00	31 00 @ 36 00

The subjoined tabular statement presents summaries of the total receipts of the leading kinds of Breadstuffs, by railroad, river and coastwise, and of the total sales, here for twenty-four business days, ending to-day, as well as of the exports from the port of New-York for the same period:

	Receipts.	Sales.	Exports.
Wheat Flour, bbls.	181,600	329,355	68,451
Wheat, bushels	134,500	231,150	68,327
Corn, bushels	219,500	697,000	152,049
Rye, bushels	2,000	57,200	1,004
Barley, bushels	12,450		

These summaries enable us to make the following comparison of the receipts and sales:

	Receipts.	Sales.
Total 24 days this month in bushels	1,264,000	2,639,575
Total 24 days last month in bushels	1,236,000	2,620,650

Increase this month, in bushels..... 28,000 18,925
They also afford the following comparison of the exports, from the port of New-York, for twenty-four business days last month, and twenty-four business days, this month:

	LAST MONTH.	THIS MONTH.
Flour, bbls.	84,882	68,051
Wheat, bush.	149,382	68,327
Corn, bush.	508,949	152,049
Rye, bush.	42,524	1,004

CATTLE MARKET.—The receipts of Beef Cattle for four weeks ending May 20, were 12,366, or 761 less than during the preceding four weeks. Receipts for the week ending April 29, 3,417; May 6, 2,948; 13, 3,158; 20, 2,743. Prices varied as follows: April 29, 4c. decline; May 6, 4c. decline; 13th, 4c. decline; May 20th, 1½c. @ 1½c. advance; making a total advance for the month of 1c. Wednesday May 20th, prices ranged: Premium cattle 14c. @ 15c.; First quality, 13½c. @ 14c.; Medium quality, 13c. @ 13½c.; Poor quality, 12½c. @ 13c.; Poorest quality, 12c. @ 12½c. General selling price, 12½c. @ 14c.: Average of all sales 13c. @ 13½c.: These prices are higher than have been obtained in two if not in twelve years past; and, as there is a scarcity of cattle in the country prices must rule high during the season.

Receipts of Sheep and Lambs for the four weeks ending on the 20th were 15,783, giving an increase of 1,667 over the same period of last month. Prices now range at 13c. @ 15c. ½ lb. for the dressed carcasses, or almost 6½c. @ 8c. for sheep with wool on, and 11c. @ 13c. dressed, or 5½c. @ 7c. ½ lb. live weight, for shorn animals. Lambs are yet scarce, selling at prices equal to 18c. @ 25c. ½ lb. for the meat.

THE WEATHER thus far, during the present month, excepting one week commencing with the 6th, has been more like April than May. Cold and rain have been the chief elements of the weather. As late as the 19th snow fell in the central part of New-York, and the cold rain here was interspersed with snowflakes. The Spring is very backward, and much seed now in, must decay through excessive moisture and cold. Our condensed weather notes read: April 24, rain; 25, and 26, clear and warm; 27, rain; 28, 29 and 30, clear. May 1, clear and fine; 2, heavy rain; 3, foggy; 4 and 5 heavy rain; 6 to 10 clear, fine and warm; 11 and 12, clear but cooler; 13, warm.—Plum, Peach and Cherry trees in bloom; 14 and 15, rainy; 16, rain A. M., clear P. M.; 17, clear and cool, with frost, 18, cool and cloudy; 19 and 20, cold North-East rain storm—a little snow here, and considerable at the North, 21, cloudy, with rain A. M., clear P. M. Ground full of water; 22, clear and warm.

What is the Postage on this Paper?

We say 14 cents per quarter, or 6 cents a year and in proof, on the last page of the January number (bottom of middle column) we published the decision of the Post Office Department at Washington. But still we have complaint after complaint from subscribers that some Post Masters, who are "wise above what is written," still continue to charge 12 to 25 cents a year. We now request every subscriber charged over 6 cents a year if, paying postage in advance, to send us the particulars and we will at once refer each case to the Post Master General. This applies to every part of the United States and Territories. All papers going beyond the United States boundaries are regularly pre-paid by us at the N. Y. Post Office.

When this Number is Mailed.

The first copies of this (June) Number will be mailed to the most distant subscribers on Monday, May 25. The whole edition will be mailed on Monday, Tuesday and Wednesday, May 25, 26, 27—those going the greatest distance being sent off first. All further delays must be charged to the U. S. Post-Office Department.

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Postage anywhere in the United States and Territories must be paid by the subscriber, and is only six cents a year, if paid quarterly in advance, at the office where received.

Subscriptions can begin Jan. 1st, July 1st, or at other dates, if especially desired.

The paper is considered paid for wherever it is sent, and will be promptly discontinued when the time for which it is ordered expires.

All business and other communications should be addressed to the Editor and Proprietor,
ORANGE JUDD,
No. 191 Water-st., New-York.